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PLANNING CONSIDERATION IN LOW-COST HOUSING
IN WESTERN COUNTRIES
AND
THEIR APPLICATION TO INDIA

A THESIS

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the Faculty of the Graduate Division
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AND
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PLANNING CONSIDERATION IN LOW-COST HOUSING
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THESE ABSTRACT

The purpose of this thesis is to make discriminating application to India of western planning considerations in low-cost housing. India stands today on the threshold of industrialization. There is a necessity of investing capital in productive activities to speed up national development. At the same time, the country faces the task of providing the demands of shelter, which, if not undertaken, may not only lower production but may also result in political repercussions. An attempt is made to profit from the experiences of the west in tackling the housing problem.

Long term and immediate factors causing the grave housing crisis were reviewed in order to get a clear perspective of actual conditions of housing in India. Also, a study was made of the various housing programs and the measures undertaken to cope with the situation.

A library research of western planning practices from which India can profit was conducted. The following

are some of the desirable practices observed: national and regional planning to obtain balanced growth of the country, as well as the region; decentralization based on the increased importance of medium-sized cities and compact New Towns; neighborhood planning for economic and social reasons; growing importance of housing management and welfare agencies; the use of city planning and housing tools to guide and regulate healthful new developments and to preserve and improve existing housing. The housing policy of the United States was reviewed because it offered a comprehensive approach to city planning and housing. Co-operative and aided self-help housing programs of Sweden were analysed, since they provided ways to lower the cost of housing and to harness untapped sources of reserve. Also, measures of standardization in both building materials and construction were discussed.

Though economic, climatic and social conditions of India have been considered, the recommendations made are not a complete answer to India's housing ills but only those suggested from a study of western experiences. It is recommended that India should have a comprehensive planning and housing policy at the national and state levels. This policy should relate housing to regional developments and be based on the balanced growth of the country and the various regions. Building of compact new industrial towns

and enlargement of small-sized cities should be undertaken by governmental agencies. Pilot housing projects should be started, making use of cooperative and aided self-help programs. Housing developments should be built as neighborhood units. They should be simple with minimum services and facilities. As far as possible, indigenous materials and low-cost building techniques developed through research must be used. National and state housing organizations should organize the building industry, standardize plans and materials, develop cooperative and self-help programs, carry on research and profit from international technical cooperation. At the local level, housing and planning tools should guide new developments and preserve and improve existing ones. Citizen participation should be stressed in all of the programs.

CHAPTER I

ANALYSIS OF HOUSING CONDITIONS IN INDIA

"Through the ages, the three basic human needs have remained unchanged: food, clothing, shelter." -- Nathan Straus.¹

Next to food and clothing, proper housing is one of the primary necessities of life. The house is the place where the future citizen is born and his early life is molded; where he settles down after marriage and raises a family; where he spends the last years of his life in retirement. It is the place where he spends his life from the cradle to the grave. And yet, everywhere in the world, millions of families have extremely bad housing and live in conditions of indescribable squalor. Slums and blighted areas are common to every country, from the United States, with its otherwise high standard of living, to India with its millions of poverty stricken people.

There is a certain amount of similarity in the basic problem of housing, though the magnitude of the problem in

¹Nathan Straus, Two-thirds of a Nation. New York: Alfred A. Knopf, 1952, p. 4.

the underdeveloped areas is intensified by economic conditions. In America, the problem is to find ways to build houses which the medium and low income people can afford to buy or rent. In Britain, the question is how to stretch the limited capital, materials, and labor to provide housing for as many people as possible. On the continent, the problem is how to finance a greater volume of housing construction. In India the immediate problem is how to organize and finance, in the face of shortage of capital and materials, low-cost housing in unparalleled quantities.² The object of this thesis is to find out how western planning practices in the field of low-cost housing will help India to solve her housing problem. In this investigation the first task will be to survey the housing situation in India and to find out what steps have been taken to tackle the problems.

Factors Influencing Housing in India

Long Term Factors

Past neglect in the growth of cities.--Housing conditions in India are among the worst in the world. Millions of families live in crowded, insanitary, and substandard dwellings. Others do not have even a roof to shelter them from the weather. Living conditions in rural parts are bad but in the

²Jacob Crane and Edward Paxton, "The World-wide Housing Problem," Town Planning Review, Vol. XXII, 1951, pp. 16-42.

cities they are pitiful. Such conditions are attributable to a certain extent to ignorance and age-old habits. But the main reasons are historical and economic. Towns were allowed to grow haphazardly. Industries were started without any plan to house the workers when it was clearly apparent that they could not afford to pay decent rent, far less build or buy homes. In most cities, serious attempts were never made to provide water supply or drainage. If free countries were not able to house their low-income people decently, then India, under political and economic domination, was in no position to handle its growing housing problem, which has assumed huge proportions since the turn of the century.

Increase in population and the poor economic condition of the country.--The population of India has been increasing rapidly. From 1880 to 1951, it had increased fifty per cent. At the present time, the rate of growth is about 4.5 million a year. While this growth was taking place, there was not a corresponding increase in the total national income. In 1949, the per capita income in India was \$54, as compared with the average income in the United States, Canada, Sweden, and the United Kingdom of \$1444, \$900, \$820, and \$775 respectively.³ Food consumption is hardly above subsistence level, and yet two-thirds of the expenditure available for

³International Labour Organisation, Workers' Housing Problems in Asian Countries (Asian Regional Conference, Tokyo, 1952). Geneva: International Labour Office, 1952, p. 12.

consumer goods is spent on food items. Clothing used is at its barest minimum. Housing is primitive in villages and, in addition to being bad in quality, is in extremely short supply in urban areas.

Trend towards urbanization.--With a growing population and low living conditions, the trend has been for increased urbanization. There has been a lack of opportunity for employment in agriculture, which has been attempting to support more people than it possibly can. Hence, people have been moving into towns in search of jobs. Whereas the population of the country as a whole during the last three ten-year census periods, between 1920 and 1951, increased by 11, 14.3, and 12.4 per cent, the corresponding increases in urban areas were 21, 32, and 52 per cent. Though the percentage of people living in towns is only 17.3, a total of 31 million people, that is, a population greater than that of the entire United Kingdom, now live in towns.⁴

Growth of industries.--The first stimulus to industries was given during World War I. During the inter-war period India made considerable industrial progress, but it was World War II that gave a great impetus to industrial activity and the country came to be ranked among the first eight industrialized countries of the world.⁵

⁴Robert T. Crane, "Urbanism in India," American Journal of Sociology, Vol. LX, No. 5 (March 1955), pp. 463-470

⁵Government of India, The Ministry of Information and Broadcasting, About India. New Delhi: The Publications Division, 1954, p. 45, 46.

Immediate Factors

Influx of refugees.--In 1947, India became independent. The country was also partitioned, which brought about the influx of about eight million displaced persons from Pakistan, greatly aggravating the housing situation. Though an equal number of persons left India, they were mostly from the rural parts. But the refugees who came to India were artisans and small businessmen, who had lived in cities for most of their lives. Moreover, the general tendency was to flock to the cities, especially to the bigger ones, in search of employment.⁶

Temporary housing of all kinds was provided to meet the emergency situation. About 1.5 million people were accommodated in the houses vacated by the people who migrated from India. For the rest, more than a dozen new towns were built. Suburban extensions and housing colonies sprang up everywhere. These were either financed directly by the government or were built by private enterprise and cooperatives, subsidized in various ways by the government. Up to 1954, the housing program of the Rehabilitation Ministry of the Government of India involved an expenditure of Rs. 651 million.* The various state governments also spent large sums of money.⁷ Between them, the National and

⁶Government of India, Ministry of Information and Broadcasting, Housing in India. New Delhi: The Publications Division, 1954, p. 4.

*United States \$1 = Rs. 4.72 (rupees)

⁷Ibid., pp. 8-12

state governments seem to have overcome the acute phase of the refugee housing problem. But there is no doubt that thousands of families doubled up or worse, while many others have become what are called "pavement dwellers," which has brought about an extremely difficult situation in some of the larger cities.⁸

Influence of the five-year plans.--India launched her First Five-Year Plan of development in 1951. Though heavily geared to make the country self-sufficient in food, it brought new industries to the growing cities. For the Second Five-Year Plan, starting in 1956, an ambitious program of industrializing the country rapidly has been undertaken, which will further increase the demand for urban housing.

Lack of building industry, building materials and skilled labor.--In the face of a great demand for houses, India has no organized building industry. There are no big enterprises which can be entrusted with the task of mass house building or which could build houses in large numbers for sale. There is an acute shortage of skilled labor also. Whatever house building goes on is carried out by small contractors who have very little technical knowledge and have limited capital and labor at their command.⁹ There is

⁸United Nations, "Housing and City Planning in India," Current Information on Urban Land Policies. Current 3T/50A/9 1952, pp. 213-219.

⁹Planning Commission (India), Memorandum on Housing, typed manuscript, 1951, pp. 15, 16.

an acute shortage of building materials, like steel, cement, bricks, timber, and sanitary equipment, either because of production deficiency, or because these materials are required elsewhere for productive activities like building factories and river valley projects.

Cost of new housing vs. the need for productive capital.--

Natural increase in population, a trend towards increased urbanization hastened by industrialization, the influx of refugees, a low living standard and low national income, the lack of an organized building industry, and shortage of building materials and skilled labor have posed a housing problem in India unparalleled in the history of any other nation.

During the period of the First Five-Year Plan, 1951 to 1956, an estimated 1.8 million urban houses were built in India. On the basis of a rough estimate made by the National Planning Commission, nearly 3 million urban houses will have to be built during the Second Five-Year Plan period starting in 1956.¹⁰ Even using minimum housing standards, this will require the enormous expenditure of about 2 billion dollars. In view of the tremendous financial implications involved, any large scale housing policy has to be carefully considered from the economic stand-point, although other considerations will weigh heavily in the matter.

¹⁰ Government of India, Ministry of Information and Broadcasting, Second Five Year Plan (The Framework). New Delhi: The Publications Division, 1955, p. 59.

In the industrialized countries of the West, the people are fairly well fed and clothed and there already exists an impressive accumulation of capital plant and equipment, promising a continuous high level of productivity and national income. After an initial period of increased population, industrialization has brought a limitation of family size, which is keeping population within reasonable bounds, thus insuring a high standard of living which the people now enjoy. India, on the other hand, has the lowest per capita income in the world, with the possible exception of China. Consumption of food, clothing, and other basic requirements is nearly as deficient as is the supply of housing. At the same time, there is an equally pressing need for accumulating a stock of capital equipment vital to the future growth of productivity and national income.

We find the magnitude of the housing problem to be enormous. Let us next examine the Housing Programs which the country has already under way and assess their merits and shortcomings.

Housing Programs in India

Planning and Housing Legislation

Some of the states, like Madras, have a Town Planning Act; others do not have any legislation to enable the towns to make development plans.¹¹ However, the cities have

¹¹International Labour Organisation, op.cit., p. 1.

powers under the Municipal Acts and the Public Health Acts to zone areas for residential use only and to prohibit factories and offensive trade in specific areas. Except in a few towns, even these powers have not been exercised.¹² The results are the all too familiar mixed uses and consequent intolerable living conditions.

None of the states has a Housing Act. Only four states have recently set up regional housing boards to function as statutory, autonomous bodies, with the responsibility of implementing housing schemes drawn up by the government.¹³

The Land Acquisition Act of 1894 of the Government of India permits the acquisition of land for public purposes and is broad enough to support land acquisition for housing, slum clearance, and town planning. The state governments have the right to make administrative determinations as to what is a public purpose and there is no review of such determinations in the courts. Only the administrative determinations of compensation are reviewable in the courts. Market value has been defined in Indian law as "the price that would be paid by a willing purchaser to a willing seller, where both are actuated by the business principles

¹²Government of Madras, Report of the Madras Provincial Town Planning Enquiry Committee. Madras: Government Printing Press, 1949, p. 51.

¹³Government of India, Housing in India, p. 26.

prevalent at the time in the locality." The term thus defined is held to include the potential value of the land as well. In addition to the market value, fifteen per cent solatium (i.e., extra payment) has also to be paid as compensation. This raises prohibitively high the cost of assembly of land for housing and other public purposes.¹⁴ However, a departure has been made for the improvement schemes of some of the town improvement trusts and for the settlement and housing of persons displaced from Pakistan. In these cases, the basis of compensation was the market value five years before the date of taking of the land, plus the fifteen per cent solatium. The Town Planning Act of Madras has gone a step further. It has simplified the procedure for acquisition of land and has waived the fifteen per cent solatium.¹⁵ The National Government has been considering an amendment to the Land Acquisition Act of 1894, whereby use value rather than market value would be the basis of compensation. The amendment would also provide a quicker method of taking possession of acquired property.¹⁶

Minimum housing standards and density.--In India, there are at present no legislative provisions establishing minimum

¹⁴Chandulal C. Desai, "Urban Land Policies: India," Housing and Town and Country Planning, United Nations Bulletin 7, 1953, p. 76-82.

¹⁵Government of Madras, op.cit., p. 81.

¹⁶Government of India, Ministry of Information and Broadcasting, First Five Year Plan (People's Edition). New Delhi: Planning Commission, 1953, p. 237, 238.

standards for adequate living space, though, in some of the larger municipalities, the building by-laws include provisions prescribing the minimum size of living room.¹⁷ There are also no building codes to insure good permanent housing construction.

A committee reporting to the Government of India¹⁸ recommended that the minimum floor space should be 100 square feet for an adult and 60 square feet for a child. The minimum floor space for a room should be 120 square feet. The committee strongly condemned the use of a one-room tenement by a family, as it is obviously unhealthful and renders privacy and the decencies of family life almost impossible. It said that no house or portion of a house intended for occupation by a family should consist of less than two living rooms, with a separate kitchen, bathroom, latrine and, in the warmer parts of the country, a verandah. It further said that one-room tenements should be restricted to single persons and, even then, they should be adequately provided with common kitchen, bath, and latrine accommodations. Yet the Government of India, under financial pressure and

¹⁷Government of India, Ministry of Labour, Low-cost Housing for Industrial Workers. New Delhi: Office of the Chief Adviser Factories, 1954, p. 1.

¹⁸Government of India, "Rural and Urban Housing in India," (Extracts from the report of the Health Survey and Development Committee), Housing and Town and Country Planning, United Nations Bulletin 2, 1949, p. 22-26.

submitting to circumstances,¹⁹ has approved in its Industrial Workers Housing Scheme one-room tenements as minimum requirements.²⁰ In some of the housing for displaced persons, duplexes have been constructed with the idea that they will be made into one unit and occupied by one family when the present emergency is over.²¹

A Madras Provincial Housing Committee questionnaire survey showed that, on an average, there were 14 persons per dwelling unit in 1946 in the city of Madras. In Bombay, according to the postwar Rationing Census, there was an overall average of 3 persons per tenement. This crowding has certainly worsened since then. Because both of the figures are an average for the entire city, the actual density in the industrial workers' quarters is much higher. The squalor of the slums in these cities is indescribable.²² Nor are the conditions in the smaller cities much better. It is in the light of these existing conditions that any recommendations for minimum housing have to be considered.

¹⁹Jawaharlal Nehru, Prime Minister of India, "Message," in Government of India, Exhibition Souvenir, Revised Edition, (International Exhibition on Low-cost Housing, New Delhi, January to March, 1954), New Delhi: Ministry of Works, Housing and Supply, undated, p. 3.

²⁰Government of India, Subsidised Housing Scheme for Industrial Workers. New Delhi: Ministry of Works, Housing and Supply, undated, p. 1.

²¹Government of India, Housing the Displaced. New Delhi: Ministry of Information and Broadcasting, 1951, p. 2.

²²International Labour Organisation, op.cit., p. 9, 10.

There is also no legislation for controlling the density of housing developments and for establishing yard requirements. However, certain requirements and recommendations have been made. They are given below.

Standards Recommended for India

Organization	Dwelling Units Per Acre		Lot Area and Other Requirements
	Single Story	Multiple Story	
Industrial Housing Scheme Govt. of India ²³	20 to 25 per gross acre	50 to 60 per gross acre	Lot area requirement not stipulated. Courtyard of 300 to 400 square feet with fence or compound wall. Project to be prepared carefully with provision for parks and playgrounds.
Madras Corporation ²⁴			Minimum lot area required is 3600 square feet with minimum open space of five feet around the house.
Madras Provincial Housing Committee recommendations ²⁵	18 houses per net acre		The proportion of built-up area to site should not exceed 1:4. Provision for open space for parks and playgrounds.

²³Government of India, Subsidised Housing Scheme, p. 9.

²⁴Government of Madras, Report of the Madras Provincial Housing Committee. Madras: Government Printing Press, 1946, p. 53.

²⁵Ibid., p. 53, 91.

Financial Programs

Housing loans and subsidies.--The Government of India has recognized the responsibility of the public agency to provide for the housing of the low-income groups. The division of responsibility between the National Government and the states has not been, however, clearly defined in the Constitution. The National Government seems to have taken the view that it is responsible for urban housing while the state governments must look after rural housing.²⁶ But up until now, the National Government has limited its financial help to industrial workers' housing which will directly help in the industrialization of the country.

The Subsidised Industrial Housing Scheme²⁷ of the Government of India was provided with Rs. 335 million for the period of the First Five-Year Plan and the states were expected to invest Rs. 101.9 million. The Government of India gives a 50 per cent subsidy to industrial housing schemes undertaken by the state governments and statutory housing boards. The subsidy to private employers and registered cooperative societies of workers is 25 per cent. In addition to the subsidy, the state governments, statutory housing boards, as well as the cooperatives, are given a loan of 50 per cent of the total cost, repayable in 25 years,

²⁶Government of India, First Five Year Plan, p. 234.

²⁷Government of India, Subsidised Housing Scheme, p. 4-12.

with interest at 4 1/4 per cent per annum. Private employers are also given a loan of 3 1/2 per cent of the total cost repayable in 15 years, with a rate of interest of 4 3/4 per cent per annum.

The standard cost for both single and double-storied one-room tenements has been fixed at Rs. 2,700. This includes the cost of land and its developments. In the cities of Bombay and Calcutta, where building sites are both scarce and expensive, the construction of single-storied tenements is discouraged and the standard cost for multi-storied tenements has been raised from Rs. 4,000 to Rs. 4,500. The standard maximum rent for one-room tenements has been fixed at Rs. 10/- and only in the above two cities for double-storied, one-room tenements, the rent has been fixed at Rs. 17/8.²⁸

Up to 1954, the Government of India allowed only 10 per cent of the units in any scheme to be two-room tenements. This restriction was subsequently removed. The standard costs of two-room single-storied and double-storied tenements have been fixed at Rs. 3,340 and Rs. 3,490 respectively. In the case of Bombay and Calcutta, the costs are fixed at Rs. 5,560 and Rs. 5,980.²⁹

²⁸ Ibid., p. 2.

²⁹ Government of India, The Ministry of Works, Housing and Supply Report 1954-55. New Delhi: The Ministry, undated, p. 22, 23.

The state governments have been advised to construct the tenements and give them to the workers on a hire-purchase system. The cooperatives were also given initial capital and the hire-purchase system was extended to them. The Indian Government has now decided to give loans at low interest to city improvement trusts for urban redevelopment schemes. The amount of money is to be determined each year. The total number of tenements completed or under construction under the "Subsidised Industrial Workers' Housing Scheme," up to 1955 was about 50,000. The National Government had sanctioned subsidies of Rs. 63.6 million and loans of Rs. 63.3 million.³⁰ This is far short of the Rs. 385 million earmarked for this purpose in the First Five-Year Plan.

The Government of India has recently come out with a scheme to provide cheap credit facilities to those groups whose incomes do not exceed Rs. 6,000 per annum. Long-term loans will be advanced to the state governments for their "Low-Income Group Housing Schemes." The loan is repayable in 30 years at 4 1/2 per cent. Short-term loans are also made available for 3-year periods at 3 1/4 per cent. The loan covers only 20 per cent of the cost of house plus land but not in excess of Rs. 2,000. The minimum floor area requirement in this case has been fixed at 320 square feet.

³⁰Ibid., p. 24, 25.

A scheme for housing people in the middle-income groups is also under consideration.³¹

Building Programs

Housing cooperatives.--In the field of housing cooperatives, India leads among Asian countries, with the States of Bombay and Madras outstanding.³² These two states have had long experience with both individual home-ownership and co-partnership cooperative housing.

In the State of Bombay, in June 1951, there were 357 housing cooperatives with 48,721 members. Since their inception, they had constructed more than 6,000 tenements on the co-partnership basis. These have been subsidized in various ways by the state government. There is a five-year scheme to provide subsidies and loans to building societies for the so-called backward classes. There is also a co-operative housing federation whose purposes are to acquire land, to take steps for the procurement of building materials, to advise, assist and inspect member societies, and to help societies which are members in obtaining loans from the government.

In the State of Madras, the state officials organized cooperative societies in municipalities in which there was a shortage of housing and in which there was also local response. Building materials were made available to the societies. The government shared the cost of the land

³²International Labour Organisation, op.cit., p. 22, 23.

acquisition staff which was organized under a state officer. The government also reduced the interest on loans from 4 1/2 to 3 1/2 per cent. The services of the state engineering staff were also given to the societies, as well as certain inspectional services. The housing in these societies was of the individual home-ownership type.

In Madras, a recent development has been the formation of cooperative townships on the outskirts of the city of Madras, where extensive lands have been available. In addition to acquiring land, leasing it out as sites and building houses, this cooperative society also provides and maintains civic amenities, such as roads, parks, drainage, sewerage, water supply, electricity, schools, and hospitals. In the Gandhinagar and Venkatesapuram colonies,³³ the society has built a number of houses for the low-income group. The lot area is 4,500 square feet and the cost of land is Rs. 2,000. The building costs, with all community facilities, ranged from Rs. 3,400 to Rs. 6,000. Members are required to take shares in the society equal to the value of the sites. They are required to pay one-fifth of the cost of construction at the time they occupy the houses and to pay the remaining four-fifths in equal installments over a period of 20 years. A member may pay off the entire cost of the house at any time, but the

³³ Madras Co-operative House Construction Society, Inauguration of Gandhinagar. Madras: Associated Printers, undated, p. 56.

ownership of the house will be transferred only on the expiration of 10 years. This provision was made as a safeguard against speculation.

The society has at various stages encountered difficulty in purchasing land from private parties. Shortage of technical personnel and building materials were some of the other obstacles with which the society had to contend.

Aided self-help housing.--The first attempt in self-help housing was in the housing of displaced persons from Pakistan. The refugees from East Pakistan alone built 245,000 houses, for which the government made available building sites, materials, and loans. In the western and northern states, private parties and cooperatives of refugees had built an estimated 45,000 houses.³⁴ The technique of aided self-help had also been used in the Community Projects Administration program which has been started by the Government of India, in cooperation with the United States Technical Assistance Administration.³⁵

Perhaps the most spectacular success of aided self-help in India has been in the refugee town of Faridabad, 10 miles from Delhi.³⁶ Here was a bold

³⁴Government of India, Housing in India, p. 8-12.

³⁵International Labour Organisation, op.cit., p. 18.

³⁶Ibid., p. 18.

experiment on an unprecedented scale.³⁷ The master plan was prepared by planners and architects of the government, who also designed the houses. Self-sufficiency and self-help were the bases on which the town was built. The refugees, a majority of whom were shopkeepers and landlords, were persuaded to work on a subsidized cooperative basis. Building-trade instructions were given by the government staff. As the refugees learned their skills, the subsidies were gradually scaled down to nil.

The project was operated by a statutory body sponsored by the government. Building was entirely done by workers' cooperatives and no contractors were employed. Only five per cent skilled outside labor was employed. In all, about 40,000 refugees were settled within five neighborhood units, each with its own school, shops, playground, and meeting place. The houses have two living-sleeping rooms, a kitchen, a shower, and communal latrines. Electric power is provided and water supply is from wells. Workers pay a rent of about Rs. 10 per month over a 30-year period, at the end of which time they will acquire full ownership of their houses. The average cost of a house was Rs. 1,300 and the whole project was financed by a Rs. 25 million loan from the Indian Government.

³⁷United Nations, "Case Studies in Aided Self-Help. India: Satellite Community at Faridabad," (Housing in the Tropics), Housing and Town and Country Planning, United Nations Bulletin 6, 1952, p. 63, 64.

As an experiment in aided self-help, Faridabad was a great success. But it has been a failure as a satellite city because, in spite of a few industries started, it failed to provide the industrial employment required by the many thousands of people who settled there and who are gradually drifting to the large city of Delhi.³⁸

Research, Organization and International Cooperation

Considerable progress has been made in India in the field of building techniques and utilization of indigenous and cheap building materials to reduce the cost of housing and to improve quality.³⁹ Mysore and the Punjab have come out with the stabilized soil construction technique. The stabilization of the soil is done by mixing certain binding materials like lime, cement or bitumin. Certain up-to-date techniques make savings in the stabilizing materials and labor. Soil-cement blocks have been used in the Mysore schemes. A special, improved form-work which can be shifted progressively has brought better quality work and savings in labor in the Punjab. Hollow concrete blocks used in Chittaranjan and Bombay housing schemes can be

³⁸Catherine Bauer, "Economic Progress and Living Conditions," Town Planning Review, Vol. XXIV, No. 4, (January 1954), p. 377.

³⁹Government of India, Low-cost Housing, p. 53-59.

adopted in states where brick is costly but good sand and gravel are available. By using the "pot-tiled roof construction," and by making use of indigenous materials for the walls, Hyderabad has been able to eliminate completely cement and steel, and timber is used only for doors and windows. Madras has built inexpensive housing, using screened earth, sand, cement and lime as building materials, which it is claimed will last for at least 20 years. Madras has also developed a membrane-roof dwelling unit. Hyderabad has designed a smokeless kitchen which is an important factor in making the one- and two-room houses habitable. Delhi has used prefabricated panels without much success. However, precast reinforced concrete tee-beams have been very successful in cutting down steel consumption by making use of non-reinforced roof slabs.

These important advances have been made possible by research and there is scope for further improvements. Facilities for research in India are provided by the universities and by specialized institutions like the Central Building Research Institute at Boorkee, the Forest Research Institute and College at Dehra Dun, the Indian Standards Institutions at Delhi, the Government Test House at Alipore, the Engineering Central Laboratory at Hyderabad, the Soil Mechanics Laboratory at Karnal in the Punjab and the Central Road Research Institute in Delhi.⁴⁰ The

⁴⁰ Government of India, Housing in India, p. 26-28.

institutes of engineers, architects, and town planners and an association of builders have been sponsoring research. Private enterprises like the Associated Cement Company, the Tata Iron and Steel Company, and the Indian Steel and Wire Products also provide facilities for research.

Realizing the importance of a comprehensive national approach, the Government of India reorganized one of its ministries in 1952 under the name of Ministry of Works, Housing and Supply. One of the responsibilities of this ministry is the administration of the housing policy of the government. As already mentioned, the States of Bombay, Madhya Pradesh, Hyderabad, and Mysore have set up autonomous regional housing boards. In 1954, the Government of India set up the National Building Organization, which has for its objectives, among other things, the coordination of the efforts and findings of the various agencies concerned with the building research. It will also try to gather research materials from foreign countries. Dissemination of the information gathered to all organizations engaged in actual construction will be another of its functions. The Government is also taking steps to set up a library in building materials and techniques, town and country planning, and allied subjects.⁴¹

⁴¹Government of India, Ministry of Works, Housing and Supply, Report 1954-55, p. 28.

Thanks to the efforts of the Ministry, a number of important seminars and conferences on low-cost housing at both the national and international levels have been held at New Delhi.⁴² These were:

1. UNESCO symposium on "Scientific Design of Low-cost Housing in the Tropics" in December, 1952.
2. U. N. Seminar on "Housing and Community Improvement," January-February, 1954.
3. Regional conference of the International Federation of Housing and Town Planning, February, 1954.
4. Second ECAFE meeting of the Inter-Secretariat Working Party, 1954. Also a symposium on "Indigenous Materials for Low-cost Housing in Rural Areas" was arranged by the Institution of Engineers at Calcutta in February, 1954.

Perhaps the most important event in the field of low-cost housing was the "International Exhibition on Low-cost Housing" at New Delhi, January-March, 1954, organized by the Ministry of Housing. This exhibition effectively summed up the progress made in various parts of the world. There was a section on model houses which had some 70 prototypes of houses for different tropical climates.⁴³ The exhibition gave an impetus to low-cost housing, particularly

⁴²"International News," Journal of Housing, Vol. XI, (February 1954), p. 59.

⁴³Government of India, Exhibition Souvenir, p. 20-22.

to the reduction of building costs and to the improvement of building techniques and designs. The National Buildings Organization has undertaken a study of the relative values of the houses in the Exhibition from the point of view of their comfort, their resistance to climatic conditions, structural stability, durability, and strength.

Any survey of public housing activity will not be complete without bringing out the fact that there is a shortage of not only highly qualified technical and administrative personnel at the national and state levels, but also of supervisory technical staff to carry out the job of constructing the hundreds of thousands of dwellings necessary in the near future.

Summary of the Analysis

There are many salient points standing out in this survey of housing in India. The country is faced with a terrific housing shortage, aggravated by the necessity of concentrating capital investment on productive activities. The temptation to neglect housing will be tremendous in the face of public financial stringency. The low economic condition of the country precludes any large-scale private building activity. Lack of legislation for town planning, zoning, subdivision regulation, and land acquisition make the task of the cities difficult in halting the further deterioration of living conditions and insuring good new

housing developments. Minimum housing standards and building codes are not enforced. Moderate research facilities for reducing the cost of houses are available and are being well exploited. The national government seems to be aware of the vital part that low-cost housing will have to play in the building up of a healthy nation. It has taken certain steps, mostly of a priming nature, to help the states and industries build low-cost housing on a large scale. What are the experiences of western countries that will help India to tide over the housing crisis? The planning practices in these advanced countries, in the physical, financial, and legislative aspects of housing, should provide valuable guidance to India.

CHAPTER II

PLANNING CONSIDERATIONS IN LOW-COST HOUSING
IN WESTERN COUNTRIES

"Instead, therefore, of thinking, as so many do, that these 'advanced western methods' are not applicable to the 'conservative Eastern atmosphere', I am myself compelled to exactly the opposite opinion. I believe that the many compact groups that compose an Indian city could themselves both organize and carry out large scale housing schemes far more easily and successfully than we, scattered, western 'individuals' have yet been able to do."
--Patrick Geddes¹

In any application of western planning practices to a country like India, one is confronted with the argument that it won't work, because of basic differences in climatic, economic, political and cultural conditions. On the other hand, western trained native sons are apt to be dazzled by the West, on the assumption that it has provided the classic example of success. Both the views are only partially true. While India has adopted many western institutions to her benefit, it was only after a series of remedial actions that the western countries have evolved their own institutions according to the genius of their people. Free India has been ready to assimilate what the West has to offer and mold it to her own needs.

¹Max Lock, "Sir Patrick Geddes and His work in India," News Sheet of the International Federation of Housing and Town Planning, No. XXXIV (November 1954), p. 7-12.

Some of the solutions to India's housing problem will suggest themselves, unrelated to western practices. The discussion in this chapter is neither a complete one of western planning considerations nor a full program for India's housing ills. Only those topics have been discussed which it is thought would be pertinent and helpful to meet the situation in India. Certain programs have been dealt with in some detail, because India has not been exposed, particularly, to the city planning practices of the United States.

Regional Planning Trends in the West

Though India is a predominantly agricultural country, it is rapidly industrializing and it already ranks among the top eight industrial countries of the world. There are 73 cities of more than 100,000 population and five cities of over 1,000,000.² Hence, it is important for India to know the pattern of growth of the industrialized countries of the West and from their experience formulate her own policy of future growth. For, after all, housing programs must reflect the basic decisions on the distribution of industry, agriculture, and mining, and on the concentration and dispersion of cities.

²Government of India, Ministry of Information and Broadcasting, About India. New Delhi: The Publications Division, 1954, p. 1, 45.

The pattern of industrialization in the West.---The pattern of industrialization has been characterized by its haphazard and sometimes anarchic growth. There has been also a great concentration of industries. This has been mostly due to specialization of industries, which has taken advantage of the availability of highly skilled labor, raw materials, and energy in certain areas. This has its advantages and disadvantages, but the two phases of concentration emerging out of it are the crowding of industries in large metropolitan centers and the unbalanced concentration in one region at the expense or exclusion of the others.

The big cities, invariably, got beyond all control. Bad housing, congested living, lack of recreational space, traffic congestion, and the presence of smoke and noise are some of the problems of the urban dwellers. Forced by skyrocketing land values, industries began seeking suburban locations. This centrifugal movement was largely haphazard and ill-regulated in character. The industries did not provide the various services required to meet the needs of the industry itself or its workers. Also, forced by bad living conditions, many urban dwellers escaped to the peripheral regions of the cities, which in turn created problems of new housing, with the required public utilities and community facilities, long journeys to work, and the necessity of building a network of highly complex and costly transportation systems. There is a tremendous waste of

energy and time on the part of the people and enormous amounts of money have to be invested on transportation facilities, which in its turn requires greater population to support it, and the whole thing moves in a vicious circle.³ The truth is the metropolitan centers are overgrown and over-congested and have an ill-sorted mixture of residential, commercial, and industrial uses. The increase in population and wealth in the big cities has paradoxically resulted in their own destitution, and no small part of the income of the cities has to be spent in alleviating this destitution, by costly measures of sanitation and slum clearance.⁴

This concentration of industries has left the other parts of the country impoverished. These regions had to rely mostly on agriculture, which was not able to sustain them, especially, when there was an increase in population. For all practical purposes, they remained under-developed. They had low income, low productivity, and were highly sensitive to changes in the country's level of economic activity. There was needless migration of labor from these areas and generally they were a drag on the nation's economy. This has been recognized both in Britain and in

³Royal Commission, The Royal Commission on the Distribution of the Industrial Population. London: His Majesty's Stationery Office, 1940, p. 93.

⁴Lewis Mumford, "The Garden City Idea and Modern Planning," in Ebenezer Howard, Garden Cities of To-morrow. London: Faber and Faber Ltd., 1946, p. 32.

the United States, and steps have been taken to remedy this neglect and to have a more balanced development of the country.

The role of national and regional planning in obtaining a desirable pattern of growth.--The TVA in the United States demonstrated that a region which was backward industrially can be developed rapidly to bring not only higher standards of living to the region but also stability to the nation. The essential factor was, however, the availability of natural resources. In the absence of it, the task of coming to the rescue of the backward region falls heavily on the national government.

When once it is conceded that the regions of a country are primarily the composite parts that constitute the unit, which is the country, then the regional concept can bring a total integration of the country and a balance between the various regions. It has been pointed out for the purposes of planning that it is possible to delimit the country into major homogeneous regions. These could be composite, multi-purpose areas, consisting of a number of states and measured by certain indices, such as geographic, physical, cultural, political and historical backgrounds and having the least possible number of contradictions, conflicts, and overlappings.⁵ It has been advocated that the task of

⁵Howard Odum, "The Promise of Regionalism," edited by Merrill Jensen, Regionalism in America. Madison: The University of Wisconsin Press, 1952, p. 385-425.

delimiting regions should be undertaken by a national planning agency and state agencies. The next step would be the setting up of regional planning agencies. Their function would be to cooperate with the national planning agency in special planning and development involved in river valleys and other areas overlapping state boundaries. It would enable the states to avoid conflicts in policies and to create wholesome understanding and relationships between the cooperating states and the Federal Government.⁵

The danger from atomic warfare, against which there is no known defense, except space, brought the dispersal of industries to the forefront in the U. S. A. From strategic military considerations, it has been recommended that, wherever possible, areas of industrial concentration be held to less than five square miles or located in urban concentrations of less than 50,000, separated by about ten miles of relatively open country. However, its implementation has been limited to the location of defense plants that require maximum geographic security from enemy attack. Without causing undue migration of labor, it has been recommended that the defense industries be located in underdeveloped regions of the country and in lesser developed parts of heavily industrialized regions, with due regard to the availability of natural resources, unutilized

⁵ Ibid., p. 414. (Work Memorandum of the Institute for Research in Social Science, University of North Carolina).

labor, and in areas of declining population. These areas, it is said, when they have the potential transport and other requirements, will serve the purpose of efficient productivity more than if the industries are overcentralized in already congested areas.⁷

In Britain efforts have been made both to control the location of private industries and to bring about decentralization in the form of New Towns. At present the control over industries is exercised by the Board of Trade and the local planning agencies, under the Town and Country Planning Act (1947). But still, there has been a lack of clearly stated policy at the national level. In the absence of this, the control of industry has not been related to town planning goals at the regional and national levels. The Ministry of Housing and the local governments, responsible for planning, have no say in the matter. The Board's main interest in location seems to be in inter-regional movements of industry and it is less concerned in securing a satisfactory distribution of industry within each region. For example, one area, because of unemployment, is made a development area but is also badly congested and the industries require decentralization. By providing new

⁷U. S. Congress, The Need for Industrial Dispersal. Materials prepared for the Joint Committee on the Economic Report by the Committee Staff. Washington: United States Government Printing Office, 1951, p. 6, 7.

industries, the congestion will be perpetuated. That is why, it has been stressed, a unified distribution of industries based on the result of research on a national scale is necessary. The decentralization of industries should achieve a balanced distribution in different regions and diversification in each region.⁸

In a separate report⁹ in the Royal Commission Report, Professor Abercrombie and two other members had pointed out that control over the location of all industries was necessary for enforcing policies. When the controls are based on sound positive policy of decentralization, far from prejudicing the efficiency of industries, they should be able to help them in the selection of the most suitable areas for their activities.

The minority report proposes the establishment of large free zones and certain prohibited zones. In the free zones permits for the establishment of new or the extension of existing undertakings should be given without delay, subject, of course, to local planning controls. If the industries want to locate in the prohibited areas, they should satisfy the national agency, among other things, that the following conditions can be met:

⁸Peter Self, The Planning of Industrial Location. London: University of London Press, 1953, p. 23, 24.

⁹Royal Commission, op.cit., p. 212-232. (Separate report by Professor Patrick Abercrombie, Mr. Herbert Elvin and Mrs. Ardous).

- (1) Labor can normally be obtained in the area;
- (2) Reasonable housing and municipal services are available or can be provided, without undue expense to the taxpayer;
- (3) It would not cause undue traffic and living congestion;
- (4) It would not destroy existing open spaces.

The report further says that, in the earlier stages, it may be necessary to empower the national agency to authorize financial assistance in the form of loans, grants, etc., to both public agencies and to the industries, with the object of encouraging desirable industrial location and proper planning. This should definitely be the case in encouraging the setting up of satellite towns, development of small towns and regional centers, the recovery of depressed areas, and the development of under-developed areas. But up to the present moment, though these things have not been carried out in their entirety, the British approach to national planning and regional development has been the most comprehensive one that one finds within the limits of democratic governments. Also, there exists a machinery to implement national policy and regional planning at the local level.

Garden cities and New Towns.--One of the instruments of effecting dispersal of industry is New Towns. Those countries which are still to industrialize can profit by the mistakes of Great Britain as the classic example of the

industrial revolution. After suffering from the worst effects of uncontrolled growth, Britain is now trying to correct some of the mistakes of the past by adopting this new line of action.

The Garden City idea has been claimed to be one of Great Britain's major contributions to the pool of world thought. The idea was first presented by Ebenezer Howard.¹⁰ It has stood the test of experiment in Britain. It could well be the pattern of planning in many countries in years to come. Its essential elements, as related by F. J. Osborn in his preface to Howard's book, are these:

Moderate-sized industrial and trading towns in close contact with a surrounding agricultural countryside, each a healthy, well-equipped and coherent community; zoning of areas within each town for ready access between houses, work places, shops and cultural centres; limitation of density to safeguard light, gardens and recreation space, but not exaggerated to the pitch of urban diffusion; civic design aiming at harmony rather than standardization; planned internal and external communications; and unified site-ownership coupled with lease-holds, reconciling public interests with freedom of choice and enterprise.

The Garden City idea was popular for a time but it was only after World War I that two cities were built in Britain which faithfully fulfilled its essential elements. It was during World War II, however, that there was widespread public opinion in favor of New Town developments based on Howard's principles. The British government

¹⁰Ebenezer Howard's book was published in 1898 under the title, "To-morrow: A Peaceful Path to Real Reform." Later in 1902, it was revised under the title, "Garden Cities of To-morrow."

also accepted this pattern of growth when the Town and Country Planning Act of 1944 was passed.

The New Towns Act of 1946 set up the machinery by which New Towns were created in Britain.¹¹ Development was entrusted to a special body which was to be the Development Corporation of a particular city. It was financed by a treasury loan, the financial limit being 50 million pounds. (The actual expenditure up to date has been 130 million pounds).¹² The object was to create New Towns, and the corporations established for this purpose were given special powers to acquire, hold, and dispose of land subject to certain limitations. They were also given powers to carry out building and other operations, to provide electricity and other services, and to invest or spend available funds in a way likely to secure for the corporation a reasonable return. Finally, the corporations are to be liquidated and assets transferred to the local authority within a given period. More than a dozen New Towns have been set up and are in various stages of construction.

Shortcomings of New Towns in Britain.--It has been claimed that the New Towns have been a great success both economically

¹¹Ernest Watkins, "The Laws of Planning," edited by Association for Planning and Regional Reconstruction, Town and Country Planning Textbook. London: Architectural Press, 1950, p. 510-512.

¹²"Dynamics of Dispersal," Journal of the Town Planning Institute, Vol. XLII, No. 3 (February 1956), p. 55.

and socially.¹³ They provide a profound new approach to the whole vast problem of city agglomeration confronting all industrial countries. But critics have pointed out that, besides the limitations of number, there has been a lack of coordination between the redevelopment which is taking place in the old cities and the new development which is being carried out in the New Towns.¹⁴ The New Towns corporations have been handicapped by administrative barriers due to too many masters, prolonged delay in scrutiny of details and the tangled thicket of controls and duties. Some of these are part of the price to be paid for planned development and democratic procedure, but many of them serve no useful purpose and need to be cut drastically.¹⁵

But the chief danger seems to be that the New Towns are tending to lack heterogeneity. In the absence of community facilities and subsidies to the low-income group for housing, they may be emerging as middle-class suburbs or dormitory towns. Hence there is necessity for attracting families with reasonable ranges of income, families of

¹³Peter Self, "The New Towns' Industrial Boom," Town and Country Planning, Vol. XXIII, No. 129 (January 1955), p. 14-18.

¹⁴"Dynamics of Dispersal," p. 54, 55.

¹⁵Lloyd Rodwin, "Some Problems of British Towns," Land Economics, Vol. XXIX, No. 4 (November 1953), p. 331-342.

different sizes, and diversified commercial and industrial activity. This will require an awareness of national and regional economic trends and continuous planning.¹⁶ Care has also to be taken to see that the New Towns do not exceed their planned size.

The criticisms of Britain's New Towns do not detract from their achievements, but show the pitfalls to be avoided by other countries launching a similar enterprise. One can well imagine the ghastly congestion in London resulting from the developments employing 30,000 people, had they been inside the city instead of in the New Towns. The accounts of the New Towns indicate that, generally, after some seven or eight years, there is a profit after the payment of loan charges has been made. This profit is expected to increase fairly rapidly each year, until the towns have been completed.¹⁷

Why, then, has the New Towns idea not been pursued more vigorously by the rapidly growing countries of the West? The answer seems to be that these countries are surrounded by so much vested achievements and so many well-developed techniques that they are not able to shake themselves free. They believe that they can improve things and it may not be necessary to reshape things entirely. But, in this process,

¹⁶*Ibid.*, p. 340, 341.

¹⁷"Dynamics of Dispersal," p. 55.

they sometimes get further confused by piling complicated, ingenious means on top of each other, still further burying the ultimate causes and objectives.¹⁸

The underdeveloped countries of the world, like India, seem to be following closely the pattern of growth of these advanced countries in their earlier stages of development. But, still, it is not too late for India. Though she does not have a clean slate, she is not so entangled in the web of uncontrolled growth that she cannot start on a dynamic policy of decentralization.

Neighborhood Planning and Housing Development

The need for neighborhood planning.--An organic community plan is an indispensable framework for any housing development. Without it, even a new housing development may turn rapidly into a blighted area and become a burdensome waste. In this framework, the concept of the neighborhood unit seems to recapture the sense of intimacy and oneness that has been disrupted by the increased scale of the city and the speed of transportation. Theoretically conceived by Clarence Perry,¹⁹ carried out concretely at Radburn, and applied on a large scale in the British New Towns, neighbor-

¹⁸Albert Mayer, "The New Capital of the Punjab," American Institute of Architects, Vol. XIV, No. 4 (October 1950), p. 133-135.

¹⁹Clarence Perry, "The Neighborhood Units," Neighborhood and Community Planning: Regional Survey of New York and Its Environs, Vol. VII. New York: Regional Survey, 1929, p. 21-140.

hood planning has now been largely accepted, though there has been no agreement on details and on certain specific items.²⁰ It offers to industrialized man one of his basic human needs, the right to participate in the corporate life of the community which protects him against loneliness and isolation.²¹

It is based on the needs of the family for access to certain cultural facilities: the school, the library, the meeting hall, the cinema, the church. When all these are within easy reach of the family, there is a guarantee that they will be increasingly used by the family. Otherwise, if they are scattered all over the city, there is very little chance of their being used, especially by mothers with small children, except at the price of family neglect.²²

Characteristics of a neighborhood.--The city is a related collection of primary and purposive associations harmonizing the physical, the economic, the social, and cultural elements.²³ The neighborhood unit gives meaning to it. The

²⁰James Dahir, The Neighborhood Unit Plan: Its Spread and Acceptance. New York: Russel Sage Foundation, 1947, p. 136-175.

²¹Walter Gropius, "Organic Neighborhood Planning," Housing and Town and Country Planning, United Nations Bulletin 2, April 1949, p. 2.

²²Lewis Mumford, "The Neighborhood and the Neighborhood Unit," Town Planning Review, Vol. XXIV (January 1954), p. 257-270.

²³Lewis Mumford, The Culture of Cities. New York: Harcourt, Brace & Company, 1938, p. 430.

neighborhood is a self-contained community with a population ranging from 2,000 to 3,000, large enough to assure efficient operation of an elementary school²⁴ and to support necessary community facilities and services, though the latter should not be a decisive consideration.²⁵ All the points of activity and interest in the neighborhood should be within 10 to 15 minutes' walking distance at the most. This would confine its size to an area with a radius of about one-half mile or less. With major arteries on the outside, it should be designed essentially for pedestrian and slow moving traffic. It will have its own shopping center, park and recreation facilities and community center. It will have an adequate supply of utilities and services like water, waste disposal, and electricity. Thus, it is designed exclusively for residential and accessory uses. This kind of healthful neighborhood will develop improved human relations and higher standards of living. It will establish a sense of community loyalty which will find expression in greater social and civic activity.

Need for diversification in neighborhoods.--It has been found that some of the neighborhoods have developed as class, caste, race, or religious groups. Some degree of selective

²⁴The American Public Health Association's Committee on the Hygiene of Houses, Planning the Neighborhood. Chicago: Public Administration Service, 1943, p. 2.

²⁵Jaqueline Tyrwhitt, "Community Facilities and Services in Large-scale Housing Developments," Housing and Town and Country Planning, United Nations Bulletin 5, 1951, p. 2.

grouping is natural but society is endangered when this desire takes the form of exclusive groups and sets up barriers for other groups.²⁶ This is against the very principle of democracy, which the neighborhood has been conceived to foster. Therefore, a wide range of income and other groups is desirable for educating the young and the old, and for making the institutions of democracy work by the participation of citizens in the life of the community. When there is a mixture of social and economic classes in the neighborhood, there will be also a mixture of housing types and densities of occupation.²⁷

Site planning for low-cost housing developments.--The characteristics of the neighborhood having been defined, actual housing development is governed by climatic, topographic, economic, cultural, and many other considerations. Site planning plays a vital part in harmonizing these sometimes conflicting elements and in integrating the housing development with the neighborhood. In addition to these broad functions, site planning coordinates a number of functions. It deals with selection of sites; with the location of buildings in functional relation to each other, to the shape and topography of the site and to the environment; with the provision within the site of suitable

²⁶Ibid., p. 3.

²⁷Mumford, "The Neighborhood and the Neighborhood Unit," p. 263.

circulation routes related to existing or proposed streets and walks; with the determination of land use for private yards and public recreation space.²⁸

In its function of producing a simple, livable, economic pattern of land use in which the land and buildings are integrated, site planning must organize the neighborhood area for the needs of the families to be served. Hence, the neighborhood will be shaped by the transportation system, utilities, and the method of waste collection and disposal available, as well as the social institutions, habits, incomes, and the composition of the families.²⁹

Density of housing.--Density of housing developments, which will be an important consideration in site planning, has to be determined by the costs of land, building and utilities, by the transportation available and the distance from employment centers; and, last but not the least, by considerations of healthy family life.

Except in the redevelopment projects of the big cities, where considerations of land cost may make it rather difficult otherwise, the high-rise dwellings have been condemned by Mumford as "one of the blighting irrationalities of our time." Man in his family life needs

²⁸National Housing Agency, Public Housing Design, Review of Experience in Low-cost Housing. Washington: Federal Public Housing Authority, 1948, p. 23-72.

²⁹Ibid., p. 23.

all the things that promote spontaneity and freedom, more so because of the constrictive nature of our mechanical civilization.³⁰ But, on the other hand, an open development in the shape of single-family dwellings will raise the cost of housing, roads, and utilities unnecessarily. The answer lies in providing single-family houses, duplexes, row-houses and even apartment houses with proper amount of surrounding open space, built in a housing development to provide for the requirements of a variety of income, size, and living habits of the family.

Dwelling unit and social environment.--The dwelling should be characterized by simplicity and stability. It will depend upon the climate, the economic status of the dwellers to pay rent, and the type of building materials available. The minimum standards of space, light and sanitary facilities are indispensable, if the primary physiological requirements for healthy family life are to be met. Good design, durable materials, and, in particular, careful supervision, should play a big part in the construction of the house itself, as well as of roads, walks, drainage. This will also keep down operational cost. Attractive lawns, shrubbery and trees can give a quality to a project. It requires skill and restraint in plant selection, arrangement and planting.

³⁰Lewis Mumford, "The High-Rise Fashion," The Town and Country Planning, Vol. XXI, No. 111 (July 1953), p. 312-313.

Many European countries have now done away with the segregation of special groups and all kinds of families live in a housing development; large and small, old and young, poor and comfortably off.³¹ In order to make the low-income housing project an integral part of the neighborhood and the city, and to lift it from the physical and social isolation in which it finds itself too often in the United States, it has been suggested that a few sites here and there be assigned for the little-higher-than-lowest income groups, to be developed by private enterprise.³² This will not increase the variety of housing but also will be more desirable socially as it will afford the low income group an opportunity for meaningful contact with higher-income groups.³³

The role of social research is assuming importance in the whole field of housing. The vast amount of data already collected by the social scientists can be organized and may be made available to the designers of physical environments -- the planners, architects and housing experts. The social scientists can act as consultants to physical

³¹United States Congress, Senate, Cooperative Housing in Europe. A Report of the Banking and Currency Sub-committee Investigating and Studying European Housing Programs. Washington: United States Government Printing Office, 1950, p. 7.

³²Joseph Hudnut, The Art in Housing, reprint from the Architectural Record, January 1943, unpagged.

³³William Bacon, Housing and Welfare, Paper presented to session of National Conference of Social Work, June 2, 1953, p. 14.

designers on specific design questions and projects. Many sociological questions, however, have remained unanswered and will require long term research. This can be undertaken in existing projects by the social scientists.³⁴

Community facilities and welfare.--In Britain it has been felt that if a housing estate is a part of an existing community or neighborhood, then the residents of the housing estate should be a part of that neighborhood or community and should share any recreational or social facilities that may be available. On the other hand, when a community center or recreational area may have been built as a part of a housing project, such facilities should be made available to others in the neighborhood. This requires cooperation and coordination between the two groups.³⁵

On the same line of thinking, in the United States, the school plant and the school playgrounds are being used increasingly as a community center and recreational place, through the cooperation of the school board and the city recreational department.³⁶

³⁴Frederick Gutheim, Housing as Environment: Committee on Housing Research of the Social and Research Council. New York: The Committee, 1953, p. 33.

³⁵National Association of Housing Officials, 4,000,000 Tenements: A Study of English Public Housing Management. Chicago: Manager's Division, 1940, p. 40.

³⁶The American Public Health Association's Committee on the Hygiene of Housing, "Provision of Neighborhood Facilities in the United States," Housing and Town and Country Planning, United Nations Bulletin 5, 1951, p. 42-54.

In the case of housing built for former slum dwellers, certain additional facilities are necessary. The housing management can organize its own educational, health, recreational, and welfare programs for all age groups. This can be so arranged in time and place as to be made available to the largest number of people. Welfare agencies can play a major role in these activities. Tenants from low-income groups are rarely qualified to take initiative in organizing these activities themselves or in mobilizing the cooperation of the various welfare agencies in the area. This task will have to be shouldered by housing management. The job in housing low-rent families goes far beyond providing decent places in which to live.³⁷

Housing management.--Here again in Britain it is interesting to note that under the Octavia Hill principle, social work is combined with the business of rent collecting and property maintenance.³⁸ The training given by the Society of Women Housing Managers consists of practical work on housing estates, preparation for approved technical examinations in management, and a course of study in the social services. The typical house visitor under this management program combines the functions of social worker, visiting housekeeper,

³⁷Housing and Home Finance Agency, Community Services and Activities in Low-rent Housing Projects. Low-rent Housing Bulletin. Washington: Public Housing Administration, 1954, Attachment p. 1.

³⁸National Association of Housing Officials, op.cit., p. 3.

nurse, friend, and general family advisor and is prepared to discharge any or all of these functions as circumstances require. However, the Institute of Housing²⁶ feels that the business element of rent collection should be divorced entirely from social service functions and should be dealt with separately and by a different person. The Institute gives a three-year training for different types of housing managers. Universities also give vocational training and instruction leading to a degree in housing management. There is a steady demand by local authorities for the services of these trained people.

Even with widespread public support, a housing program does not accomplish its objectives automatically. A housing program has to evolve slowly. It has to be built up by the efforts of innumerable trained people. Legislation can be translated into social reality only with persistent effort over a long period of years.

In this all-out effort in building up a housing program, research and the pooling of experiences of the various agencies engaged in the overall program are quite essential. The housing authorities and the welfare agencies have to develop a carefully planned cooperation. This will be facilitated to a great extent when the experiences in different parts of the country and abroad are gathered

²⁶Ibid., p. 8, 12.

together and published by a central agency like the Housing and Home Finance Agency in the United States.

City Planning and Housing Goals

The Need for Planning Controls

The neighborhood unit is the basis on which residential development should take place if the people are to take part fully in the corporate life of the city. Healthy neighborhoods don't just happen. They have to be created and maintained by good planning controls. Even in new towns, where everything has been planned, there has to be continuous planning if the good work started is to be maintained. But in older cities, which have had no planning or control but which simply grew, the pattern of growth is all too familiar. There is a mixture of industrial, commercial, and residential uses everywhere. In the central business districts, the congested and dilapidated dwellings of the low-income people become slums, and the neighborhoods cut up by industries and places of business become blighted. In the outskirts of the town, with the exception of a few planned or rich neighborhoods, there is a haphazard growth of houses built out of flimsy materials without proper streets or utilities.

Comprehensive Planning

The necessity for city planning has been felt by all countries which were rapidly industrializing and whose

cities were growing at a fast rate. Planning, according to the best modern practices, goes beyond the mere physical aspects. To get a sound solution the entire complex of inter-related urban problems, viz., physical, social, economic and governmental, are taken together to form a comprehensive plan. A comprehensive or "master plan," as it is sometimes called, has to satisfy four criteria. First, it should have a balanced and otherwise attractive general design, best suited to present and probable future needs; second, it should be in scale with the population and economic prospects of the community; third, it should be in scale also with its financial resources, present and prospective; and fourth, it should be in keeping with community sentiments. It combines the desirable pattern of future land use with the program for community services to give an integrated picture of the future city. While the preparation of a comprehensive plan embodying future growth is essential, planning must be recognized as a continuing process that requires constant adjustments in the face of rapidly changing circumstances. The success of carrying out the comprehensive plan will depend upon the planning organization, the planning tools available, and the citizen participation in the program.⁴⁰

⁴⁰The International City Managers' Association, edited by Howard Menhinick, Local Planning Administration, Second Edition. Chicago: The Institute for Training in Municipal Administration, 1942, p. 10.

Legislative Controls

The subject of planning tools and citizen participation will be dealt with in so far as they afford an opportunity to improve housing conditions. The planning tools or regulations are means of channeling human activities and setting boundaries to them. The citizen participation is to insure their success in a democratic society. The principal tools are the zoning plan, subdivision regulations, capital expenditure budget, official street map, regulation of building structures through minimum housing code, building code, plumbing code and electrical code.

Zoning ordinance.⁴¹--A zoning ordinance shapes the future land use of the community. It applies reasonable limitations on the use of land and buildings to insure that the most appropriate, economical, and healthful development of the community may be achieved and maintained. It divides the community into a number of districts for the purpose of regulating the use of land and buildings, the proportion of the lot that may be covered by them, and the density of population. It consists of two parts:

1. A map or maps showing the different districts into which the entire community is divided.
2. A written text setting forth the use, height and area provisions that apply to each of the different districts and general information about the regulations.

⁴¹Ibid., p. 212-247.

A zoning ordinance has its legality in the government's police powers to promote public health, safety, morals or general welfare. It is not nuisance control or esthetic control, nor can it be used to accomplish any kind of human segregation. While it protects residential zones from the harmful invasions of commercial and industrial uses, it also promotes business and industry by the very nature of the planned and orderly development that it insures. By requiring the spacing of buildings, it provides adequate light, air, and protection from fire. It prevents overcrowding of land and thus facilitates adequate provision of transportation, schools, parks, and other public requirements.

Only when a zoning ordinance is an integral part of a carefully studied city plan can it aid in the development of a better community. Otherwise, there is danger from its use.

So, it is evident that a zoning ordinance is the most important tool in preserving the residential land values of the neighborhood and is indispensable for any housing program.

Subdivision regulations.⁴²--Subdivision regulations guide city development in harmony with the city's objectives. Within the city limits and just outside it, many houses are built in lots that are too small or lack adequate streets

⁴²Ibid., p. 248-267.

or water and sanitary facilities. These are sources of trouble for the city which will have to provide the necessary facilities in due course, while the unplanned nature of the development blights it from the very beginning.

Hence, adequate standards for land development are prescribed, such as width, grade, and quality of streets; width and depth of lots; and the provision of water and sewerage facilities. The power of control of the city can be extended outside the city boundary to assure that these areas develop in conformity with the comprehensive plan of the city. The regulations can prevent land undesirable for residential use from being subdivided and also reserve land necessary for public parks, major streets, and schools. The control is effected by requiring official approval of the plat before it is registered and prohibiting the sale of land and erection of buildings unless the lots are part of a recorded land subdivision plat.

In many European countries, the city itself plans and develops the subdivisions instead of having to approve unsatisfactory plans prepared by real estate developers.

Land subdivision regulations are an important tool in developing a healthful housing program, as they insure a good environment and the provision of utilities in new developments.

Building, plumbing and electrical codes.--These are a series of requirements covering strength of building materials and

structures, fire protection, sanitation, and safety. These, when uniformly administered by the city, will ensure at least minimum quality of housing, as far as the structure goes.

Advanced cities see that their codes are abreast of new building materials and methods of construction and that they are a stimulus instead of a brake to sound building practices which tend to lower cost. They should have enough flexibility to permit use of any new materials or new methods giving as good results as present recognised practices. Many of the cities have revised their codes and others require revision. Amendments are usually made in two stages.⁴³

- (1) Immediate amendments to take care of glaring faults and inconsistencies hampering the construction industry.
- (2) A thorough revision of the code taking into account not only fundamental changes in the structure of the code but also the neglected relation of the building code to other laws which affect building such as housing codes, zoning laws, subdivision control, police, fire and health regulations.

In the United States, National and Regional building and other codes have been drawn up which are suitable for

⁴³ Regional Plan Association, Housing for Your Town. New York: The Association, 1946, p. 13.

adoption by individual cities.

Minimum housing standards.--Housing standards, set forth in housing codes, will be influenced by climatic conditions and natural terrain. The adopted standards should be commensurate with a nation's economic capacity and should be capable of adjustment to the constantly rising standard of living. They should apportion responsibility between owners and tenants and should contain provisions for enforcement and penalties.⁴⁴ They should be clear, concise, just, and easily understood by all. There are three main subjects that are covered by good housing codes.⁴⁵

- (1) Minimum facilities and equipment, which are required in each dwelling unit. These include: lighting, ventilation, and heating; garbage and waste disposal; water supply and sewage disposal; sink, bath, and toilet; and egress.
- (2) Maintenance of the dwelling unit, facilities and equipment. They comprise: general sanitary conditions of dwelling unit; sanitary equipment and heating equipment; chimneys and flues; fire hazards like electrical wiring; pest infestation; internal and external structural repair; and dampness.

⁴⁴The State Committee on Minimum Standard Housing Legislation, Guides for Formulating a State Minimum Standard Housing Bill. Chicago: National Association of Real Estate Boards, 1954, p. 22.

⁴⁵Housing and Home Finance Agency, Local Development and Enforcement of Housing Codes. Washington: Office of the Administration, Division of Housing Research, 1953, p. 3.

(3) Conditions of occupancy of the dwelling unit.

These include: general room crowding such as persons per room or persons per bedroom, doubling of families: separation of sexes: and living units mixed with business.

Enforcement considerations.--Housing standards are of no avail if there is no uniform enforcement program. There are four major elements which have to be treated in attaining and maintaining a given minimum level of housing quality.⁴⁶

- (1) Dwelling units lacking basic sanitary and other facilities and in various states of disrepair.
- (2) Conditions in the environment surrounding existing dwelling structures, such as utilities, streets, transportation system, etc., which constitute or contribute to poor housing quality. These are the result of uncontrolled growth.
- (3) Houses which have deteriorated due to age.
- (4) New developments without one or more of the items considered necessary for minimum housing.

These conditions are best attacked under coordinated municipal policies which set forth agencies and procedures to enforce the housing codes. There are three major areas of coordination:⁴⁷

⁴⁶Ibid., p. 1, 2.

⁴⁷Ibid., p. 17.

- (1) The coordination of the purpose and results of the housing code with the general plan for the long term growth of the city. This has two important aspects.

- (a) Enforcement of minimum housing standards on dwelling units within areas that are not to be cleared. Housing code enforcement then becomes a recognized continuous function of local government. In this program, only the absolute minimum requirements will be enforced over the entire area of the city. This will require a big staff.

- (b) The enforcement program will rely on other measures such as voluntary conservation, clearance and redevelopment, to eliminate substandard conditions in areas that are badly blighted.

- (2) The selection of a city department to administer the housing code: If the enforcing agency were to be selected solely according to sources of support for standards, the choice would be between the Health and the Building departments in proportion to the relative number of health standards and safety standards contained in the code to be administered. However, in the final decision, the relation of the enforcing agency to the process of constructing new buildings as well as its relative

capacity for community leadership compared with other existing agencies, have to be considered. More and more cities have assigned their enforcement to health departments due to their initiative in obtaining adoption of housing enforcement codes, as well as a high degree of citizen participation in the overall program.

- (3) The creation of an enforcement plan to apply the standards of the housing code to individual structures and situations in the areas of the city which are not to be cleared.

Citizen participation in enforcement.--Some cities in the United States have attained a great deal of success in their attack on bad housing by their minimum housing enforcement program. They have effectively mobilized both public and private agencies. The thinking of the men who were responsible for the program was that it is the people who live in the houses that are important, and not the houses. It was this outlook that made a city like Baltimore⁴⁸ launch on a pilot program to improve substandard housing before it attacked its problem on a citywide basis.

A law enforcement committee was organized. It established a method for coordinated inspection, administration,

⁴⁸Urban Redevelopment Study, edited by Coleman Woodbury, Urban Redevelopment: Problems and Practices. Chicago: University of Chicago Press, 1953, p. 332-338.

and enforcement of the various housing regulations. The neighborhood committee was an essential part of the pilot program and was composed of leaders and residents in the area. The education committee developed a comprehensive educational program in the schools and for adults in the area as a basis for initiating intense programs of housing and community sanitation. The social service committee studied the provisions for medical care, family and child care, group work, and recreation. A project analysis committee was set up to guide the various studies, analyze data, and determine costs. Community consultants were hired to provide, in the initial stages, expert advice in the fields of medicine, public health, education, and recreation. A steering committee was formed, with members from each of the various committees, organizations, and private agencies interested in fighting blight, whose function was to coordinate and schedule the entire program.

With a pilot program well under way, useful experience was gained which equipped the city to attack the problem on a city-wide basis. The latter attack included three kinds of activities.⁴⁹

- (1) Concentrated area enforcement which subdivides the city into three districts: (a) Reconditioning districts, where a great number of units are substandard; (b) Conservation districts where

⁴⁹Ibid., p. 338.

most structures are above minimum standards;

(c) Growth districts where development is taking place at or above code standards.

(2) Complaint or referral enforcement by the regular departments having jurisdiction over individual codes and ordinances.

(3) Routine enforcement through the use of permits or similar devices.

Housing Programs in the West

The housing policy of one country is not capable of being reproduced in another country. The programs of the highly industrialized countries of the West cannot be put through in India, if for no other reason than that of the financial limitations of the government. For example, subsidies of various kinds are given to all types of home building in England.⁵⁰ Subsidies and loans are given on a vast scale in Sweden and some of the European countries.⁵¹ Some of these practices could be followed and, indeed, some of them are already in operation in India.

Housing policy in the United States.--Whereas the housing program of the United States may be insufficient in providing

⁵⁰H. R. Parker, "Housing Subsidies," The Town Planning Review, Vol. XXVI, No. 2 (July 1955), p. 112-117.

⁵¹H. Umrath, European Labor Movement and Housing. Standing Housing Committee of the European Regional Organization of the International Confederation of Free Trade Unions. Brussels: 1953, p. 1-102.

low-cost housing, it has the merit of taking an overall view of the entire field of planning and housing, and particularly its emphasis on conservation, rehabilitation and redevelopment of the cities in order to make them better places in which to live. The Federal Government is helping the cities to help themselves. It has taken the stand that it is not sufficient to have only one of the following programs: building new houses; demolishing the slums; launching upon a conservation and rehabilitation program. All of these are necessary and, in addition, they should be coordinated and fitted into a comprehensive program of planning by the cities with the cooperation and participation of the people.⁵² This, one should say, has been the outstanding contribution of planners and an evidence of their growing influence.

Workable Program of cities.⁵³ --The prerequisite of the Federal subsidies and loans is that the cities initiate what is called a "Workable Program." This is to make sure that they derive the maximum benefit from the aid provided to them, by helping them to equip themselves with the machinery necessary to carry out the program. The main elements of the workable program are:

⁵²The President's Advisory Commission on Government Housing Policies and Programs, Government Housing Policies and Programs. Washington: The Commission, 1953, p. 112.

⁵³Housing and Home Finance Agency, How Localities Can Develop a Workable Program for Urban Renewal. Washington: The Agency, 1955, p. 1-11.

- (1) The healthful neighborhoods in a city should be protected from the spread of blight by a strict enforcement of housing and neighborhood standards.
- (2) There are other areas which, by certain measures, can be restored as sound and healthful neighborhoods. This could be done by pulling down some of the bad structures, relieving congestion, reorganizing some of the streets, providing parks and playgrounds and organizing the neighborhood in such a way that it can maintain itself.
- (3) The downright slums have to be cleared and the area redeveloped in the best interests of the city.
- (4) The displaced families should be housed in new housing or housed otherwise and the new housing need not necessarily be built on the cleared site.

The Federal government has laid down the procedure for organizing a Workable Program in a city. It includes seven steps:

- (1) A comprehensive system of codes and ordinances to be prepared for enforcement on a city-wide basis. Two sets of standards are required. Housing standards to insure minimum space for occupant and adequate sanitary facilities. Building standards to assure structural strength, reasonable safety from fire, and proper plumbing and electrical installation in buildings.

- (2) A comprehensive community plan to be developed under proper legislation and local planning agency direction. The physical development to be guided by a land-use plan, a thoroughfare plan, a community facilities plan, and a public improvement program. Zoning ordinances and subdivision regulations are the tools that can guide and control these developments.
- (3) An analysis of the neighborhoods in the city with the object of determining the extent of blight in the different parts of the city in order to launch a remedial action.
- (4) An administrative organization to enforce the codes and ordinances, and machinery for coordination of urban renewal activities.
- (5) A financial plan indicating how the expenditure involved in the program will be met by the local agency.
- (6) A plan for rehousing the displaced persons with special emphasis on minorities.
- (7) Steps to be taken to secure citizen participation in the entire program in the form of citizen advisory committees, business, professional, labor, welfare, religious and educational groups.

This seems to be a formidable list of requirements for the cities to carry out before Federal aid is available.

But the Federal Government is aware that this is a long and slow process. Hence, it is satisfied if the community has made a bona fide and practical attempt to deal with its problems in good faith. This, of course, should be pushed forward with a firm resolve to carry the program through to accomplishment.

Types of Federal assistance given.--There are many kinds of Federal assistance that are available to communities.⁵⁴

Advances are given for preliminary plans and surveys for urban renewal projects. When the plans are approved, temporary or long-range loans for the project are available. Also, Federal grants up to two-thirds of the net cost of the project are paid for projects, the local agency bearing the other one-third. The project may include acquisition of land and other real property, demolition of buildings, and consequent improvements with a view to sale, initial lease or retention by the local agency, according to the urban renewal plan. This plan can be slum clearance and redevelopment or rehabilitation or conservation or any combination and/or part of it.

A special grant to a few cities has been given to start pilot projects to demonstrate the effectiveness of the overall program. Federal assistance is also given for low-rent public housing for the displaced persons which will be built, operated, and owned by the communities.

⁵⁴Housing and Home Finance Agency, Urban Renewal. Washington: Office of the Administration, 1954, p. 1-12.

Federal Housing Administration insures private mortgages for the rehabilitation or new construction of homes in urban renewal areas. Under another section, the FHA also insures mortgages of low-rent private housing for rent or for sale for those persons displaced through governmental action. FHA insured loans for non-urban renewal areas are available for modernizing and repairing homes and rehabilitating multi-family housing.

Another very important aid is the urban planning assistance,⁵⁵ up to 50 per cent, given to official state planning agencies to aid in the planning of small municipalities with a population of 25,000 or less. Similar grants are available to official metropolitan or regional planning agencies. These agencies can carry on the planning through their own qualified staff, or on a contractual basis with other agencies, private or public. This is an incentive to establish state and regional planning agencies, as well as to initiate planning for the small cities which do not have the finances to do planning but which need it as badly as any of the bigger cities. The type of planning contemplated is that of the Workable Program.

The entire housing policy of the United States has been guided by the idea that a piecemeal attack on the housing problem is not sufficient. To be successful, an

⁵⁵Housing and Home Finance Agency, A Guide to Urban Planning Assistance Grants. Washington: Urban Renewal Administration, 1955, unpagged.

overall plan must be developed and the program must proceed along a broad unified front. In this endeavor, the drawing up of national and local housing policies and the evaluating of the conditions of housing in particular areas are of great importance.

Housing surveys.--In the task of drawing up of national and local housing policies and in developing enforcement programs, the United States is fortunate in having evolved several types of housing surveys which have provided much of the necessary information.

Principally, three types of surveys⁵⁶ have been used and have proved very valuable. They are the Real Property Survey (RPS) technique, the United States Census of Housing, and The American Public Health Association (APHA) method for measuring the quality of housing. The United States Census of Housing covers every dwelling, urban and rural, with twenty descriptive items, as well as eight indices of quality. The characteristics of the residents are given on a separate population schedule. This has been of tremendous use to local communities, as well as to national and state housing agencies, in formulating housing programs. It has provided a benchmark for broad evaluation of American housing conditions. The RPS resembles the Census very closely.

⁵⁶Urban Redevelopment Study, op.cit., p. 17-47.

Surveys should be designed to serve specific needs and ends or they become wasteful. The APHA appraisal method⁵⁷ of measuring the quality of housing is intended for application on a local scale. It is a more refined instrument than the Census and the RPS. It shows up the housing problems of a city and where they are concentrated. It helps in arriving at a decision on treatment required by areas: redevelopment or rehabilitation or conservation. When uniformly applied, it affords a comparison of housing conditions of one community with another. The chief features of this survey are the following:

- (1) A complete series of quality indices like toilet and other facilities; overcrowding, condition of repair, safety of egress; adequacy of heating, lighting; sanitary condition of the premises and other items for health and safety; family size, income, rent paid, and type of structure. Distinction is made between relatively fixed physical conditions and changeable factors of occupancy and maintenance.
- (2) The neighborhood environment is recognized as an essential part of housing and is evaluated in terms of heavy traffic, floods, factories and

⁵⁷The American Public Health Association's Committee on the Hygiene of Housing, An Appraisal Method for Measuring the Quality of Housing. New York: The Association, 1945, p. 1-71.

low-grade business creating noise, smoke, etc.; adequacy of public utilities and availability of essential community services.

- (3) The use of a rating scale, with graded penalty scores for each deficiency to express the overall quality of housing in a single index figure. It does not rely on the subjective judgment of the field staff but relies on objective measurable indices which have been found to give consistent results when used by different enumerators.
- (4) Clear and well-designed forms are supplied for collecting and processing the field data. It has developed economical procedures for analysis and presentation of the findings. Appraisal with this method can be done at reasonable cost and can be carried out by existing municipal staff. It is also suitable for screening or limited purpose studies on the basis of sampling and hence affords flexibility for local needs.

A screening survey by using a low-ratio sampling⁵⁸ is able to estimate roughly the requirements of new housing, outline problem areas, suggest the nature and magnitude of problems to be anticipated and help in the broad shaping of public policy. Several abridgments of the APHA survey have

⁵⁸Urban Redevelopment Study, op.cit., p. 43.

been suggested. These can help in designating clearance and conservation areas.

Building Programs in the West

Organizing building industry.--The success of a housing program will depend upon the building industry, the organizations for carrying out building projects on a large scale like governmental agencies, cooperatives, aided self-help programs, etc., and the availability of cheap building materials and skilled labor. In Western countries, the building industry has grown up chiefly due to the demand for housing, the ability of a large section of the population to pay for its services and products, and improved technology. Also big engineering corporations have had long experience in executing housing on a large scale both for public agencies or for private enterprise. It will be a long time before the underdeveloped countries raise their standard of living and produce those conditions now existing in the West.

Building industry has to be organized and encouraged. The Pan American Union has recommended, for Guatemala, a National Housing Department with thirteen sections, to be coordinated by the Administrator who should be the "nerve center directing and supervising all the activities of the sections."⁵⁹ One of the sections is to be known as the

⁵⁹Pan American Union, Housing in Guatemala. Washington, D. C.: The Union, 1950, p. 36-92.

Section of Production and Building Industry. Its function is to promote, by all possible means, the development of local building industries and materials; to improve construction methods, and to raise the efficiency of building labor. It should analyse the proposals for the establishment of new building industries, develop a training program of skilled building workers and foremen, and test materials and construction methods. It should analyze the cost of housing projects, maintain statistics on building volume, and establish a technical reference file on construction methods used by different building firms.

Cooperative house building in Sweden.⁶⁰--Sweden has done an outstanding job in cooperative house building. One out of every three Swedish families is a member of a consumer cooperative society and the Swedes have built up a cooperative system showing a spirit of initiative in the best traditions of free enterprise. The cooperatives have closely collaborated with the representatives of labor and trade union movements both at the national and the local levels and catered to the needs of the lower income people. By eliminating speculative profits at all levels, viz., in the purchase of land, construction, sales and administration of housing, the cooperatives have been able to effect a 25 per cent cut in monthly costs.

⁶⁰U. S. Congress, Senate, Committee on Banking and Currency, op.cit., p. 21-45.

There are two sets of cooperative organizations sharing in the building of new projects and the general administration of the finished houses. There is the "parent society" which is a national organization, called "H.B.B.," with branches all over the country. This is a producer cooperative. It buys the sites and finances and builds the houses. Since it operates on a large scale, it is able to maintain a purchasing staff. The factories producing building materials are often owned in cooperation with the national cooperative society. The H.B.B. maintains a large technical planning staff which also conducts continuous research into better and more economical ways of building and operating. It obtains its credit from both municipal and state governments on favorable terms. Due to the non-profit character of the organization, the government has entrusted it with the housing of special groups. It pools the small savings of its individual members and makes these savings available as capital for its building operations, thus saving the interest which it otherwise would have to pay to outside institutions.

The finished projects are taken over by a separate subsidiary cooperative society, "the daughter society," formed by the people who intend to live in the new houses. This is a society composed of consumers. A management committee elected by the members is in charge of the general administration of the project. The prospective occupier

has to buy shares of the cooperative society amounting to at least 5 per cent of the total cost of the dwelling, depending upon the type of housing. There are houses for rent by those who cannot afford to buy shares. These people are subsidized by the city. The cooperatives lower the maintenance cost in the following manner. Each owner has to pay 5 per cent of the monthly costs as a reserve for maintenance. This is rebated to him if the owner does his own repairs or maintains his house carefully. This prevents the owners from abusing the dwelling or its equipment, which so often occurs in rented houses. Further, cost is reduced by doing voluntary bookkeeping. Savings from decreased capital costs or net earnings may be applied to pay off the loans. Unemployment, illness, death or other changes which necessitate disposal or exchange of apartments, are taken care of through a Repurchase Fund maintained by annual subscription.

The cooperatives are subject to taxation by the government, like any other enterprise, and are therefore not a burden on the government. The success of the Swedish cooperatives is due to the long tradition and experience in the field and in building up a fine organization. No doubt they have received encouragement and help by the government. The cooperatives are not only interested in housing, as such, but also in the social aspects of housing. In their housing projects they provide and operate nurseries, kindergartens,

and recreational activities. They work closely with the government, yet they are independent of it and are able to retain the advantages of private initiative. The self-operation of the cooperatives relieves the government of a huge administrative task.

Aided self-help housing programs.--Many countries have a tradition of building housing by self-help where the owner puts in his own labor during spare time to build his home, thus bringing down the cost. Sweden again has to its credit a highly interesting program.⁶¹ The houses built cannot be compared to the urban-rural, self-built shacks that one comes across in many countries. Good homes are provided for people with small incomes who are willing to work to build their homes. The success of this project of aided self-help housing, or the "Egenhun Program" as it is called in Sweden, is due to planned neighborhoods, government loans and subsidies, availability of good pre-fabricated building materials, and a good organization capable of directing the program at all stages.

The land, usually 5,500 square feet in area, is leased for 60 years at 225 or 250 Krona* a year to the prospective house builder from the city-owned land reserves. The area is planned as a neighborhood with all needed facilities and services. The city purchases large quantities

⁶¹Ibid., p. 31-34.

*United States \$1 = 5.18 Krona

of prefabricated and other building materials and delivers them at the building site. The owner does the unskilled work himself up to 10 per cent of the total cost. The city arranges with private contractors for such skilled works as the future owner cannot do himself. The city also maintains crews of instructors and supervisors who see to it that the house is put together properly and is built according to acceptable standards of workmanship.

The total cost for a three-room-and-kitchen house with full basement, gas, water, electricity, central heat and bathroom is about 30,000 krona (\$5,700.00). The house is financed by a capital subsidy by the government, a second mortgage by the government, with interest and amortization at 5.7 per cent per year and a private first mortgage at 3 per cent yearly interest and no amortization, the personal labor contribution being 10 per cent of cost. Against the monthly expenses of the tenant, the government also gives a rent and fuel subsidy on a per child basis, which keeps the housing costs of an average family below 20 per cent of income.

On similar lines the aided self-help housing program in Puerto Rico combines cooperative effort with governmental aid. The latter consists of cheap land, neighborhood facilities, cement block-making machines, and concrete mixers. The future owner and his family contribute their labor, which is pooled in a cooperative effort with

neighbors working on the housing development as a single project. This type of work has been exceedingly successful in rural parts and has been followed now in many parts of the world.⁶²

So, too, the Tuskegee Institute's "Low Cash Cost Housing" cuts down cost on building materials by the house builder producing his own materials and building it himself after undergoing a short training in the techniques.⁶³

Standardization and mass production.---Building methods and techniques in Western countries are highly mechanized and may not be suitable for underdeveloped countries. There are, however, some aspects of building that have been increasingly advocated but have not yet been followed very much, even in the West, and need exploration. For example, dimensionally coordinated house planning can be done all over the country. The modular coordinated system⁶⁴ based on a 4-inch module has been advocated in the United States, wherein the architect lays out his floor plans and

⁶²Planning Board of the Commonwealth of Puerto Rico, Faith in People. San Juan: Puerto Rico Planning Board, 1954, p. 1-30.

⁶³United Nations, "Low Cash Cost Housing: Tuskegee," Housing and Town and Country Planning. United Nations Bulletin 6, 1952, p. 29.

⁶⁴National Association of Home Builders, Seminar on the Modular Method for Town Building Costs. Washington: The Association, 1952.

elevations on the basis of this module, thus making all dimensions in multiples of 4 inches. If building materials all over the country are manufactured on the same 4-inch scale, then everything will fit in, thus eliminating waste in labor and materials such as bricks, window frames, doors, roofing, and tiles. Full benefits are obtained when all manufacturing and planning is done on a standard module and savings of 5 to 10 per cent can be expected in projects.

Along the same lines, it has been suggested that if low-cost housing has necessarily to be standardized, then it is advisable to develop a series of standard and interchangeable products.⁶⁵ Since all the houses have the same width, a standard roof truss can be designed. Standard stair cases, standard door and window frames, an electrical package containing all the wiring, panel boards and outlets are some of the many other possibilities. This kind of standardization has already been done with regard to plumbing. Prefabricated parts have the possibility of having a standard design and of being mass produced to reduce the cost.

In this respect only government can take the initiative. Research must first be done and then applied and demonstrated

⁶⁵Lawrence Benenson, "Standardization and Low-cost Homes," *Journal of the American Institute of Architects*, Vol. XIV (August 1950), p. 59-86; (September 1950), p. 133-138.

in projects. When the advantages of sub-assembled parts inherent in mass production become apparent to the public, there will be an increasing demand for all such parts. This could create a competition between manufacturers who would develop more and more such products resulting in their greater use. The Building Research Advisory Board in the United States has a record of accomplishment in housing research integration.⁶⁶ A body like the Housing and Home Finance Agency can do a job of making this research available to both private and public agencies.

⁶⁶Theoder Larson, "Building and Housing Research in the United States," Housing and Town and Country Planning, United Nations Bulletin 3, 1953, p. 73.

CHAPTER III

APPLICATION OF WESTERN PLANNING CONSIDERATIONS TO HOUSING IN INDIA

"As Nehru said of his five-year plan, India is trying to accomplish, by democratic means and in a shorter time, the things that have taken other nations much longer. He might also have added as a necessary corollary, more cheaply and with less waste along the way."---Catherine Bauer.¹

New Housing for India

Economic considerations of new housing.--Economists have agreed that newly developing countries should limit their new house building programs to those which will directly further productive activities and these, too, will have to be, preferably, of a temporary nature. They further say that if economic progress is to be achieved, there have to be great sacrifices on the part of the masses and that there seems to be no other alternative but they must continue to live in congested houses for some time to come. However, they point out that the sacrifices can be distributed a little. The Indian Government is intent on doing this distribution. It has the social objectives of protecting and promoting the level of living at lower levels, in

¹Catherine Bauer, "Economic Progress and Living Conditions," The Town Planning Review, Vol. XXIV, No. 4 (January 1954), p. 302.

preference to raising standards at a higher level. But as the authors of India's Second Five-Year Plan have said,²

As in the case of all things that really matter in life, social justice is easy to recognise, but not so easy to define. Since the goal of a socialistic pattern has now been clearly accepted, concrete steps in this direction have to be taken during the next plan period.

Will housing, which will lift the people from the misery of insanitary and congested living, be one of them?

There are very good reasons why housing should not be neglected. In the early stages of industrialization, unless new houses are built, there is bound to be urban squalor and congestion to an unlimited degree; and, once these conditions are allowed to develop, they are likely to continue indefinitely.³ Moreover, house building is by itself a justifying economic activity even in under-developed countries, especially when it is able to tap human resources in the shape of self-help programs which will not be utilized otherwise. A third reason is political. In India, the essential condition for the continuation of democratic government is that progress be made on both the economic and social fronts.⁴ No government can remain

²Government of India, Ministry of Information and Broadcasting, Second Five Year Plan (The Framework). New Delhi: The Publications Division, 1955, p. 70, 71.

³Bauer, op.cit., p. 298-311.

⁴Lloyd Rodwin, "Measuring Housing Needs in Under-developed Countries," News Sheet of the International Federation for Housing and Town Planning, No. XXXIII (August 1954), p. 8-11.

callous to the basic human need of housing. What other measure will meet the social need of the people and create in them the faith on which a democratic government has to rely so heavily, than to provide the reasonable demands of shelter?

However, India cannot afford to embark on a house building spree. It will develop into one if she tries to provide living accommodation to all the millions of families. Many years will pass before the normal demands for housing can be met by new construction.

House building activity, while it is in keeping with the country's economic limitations, must be large enough not only to prevent any worsening of the present deplorable housing situation but should relieve, at least, some of the congestion in the cities. Further, it should provide for the future increased industrialization of the country. Otherwise, if present trends continue unabated, things will get to such a point that the housing shortage will seriously hamper industrial development of the country, in the shape of decreased productivity of the workers due to poor health and lack of incentive. Also, the remedial action which the country will be forced to take before long will be many times as expensive as what would be necessary now.

The role of regional planning.--The present pattern of growth in India has closely followed the West in its early stages of industrialization. The huge metropolitan centers dominate all industrial activity and are growing by leaps and bounds. Certain areas are less developed industrially than others, producing economic unbalance. If national and regional planning of industry is found necessary in the West, in India it is imperative in order to set a desirable pattern of growth. This has been realized by the National Planning Commission when it said that special attention must be given to regional development to reduce disparity in economic opportunities and the level of life between different states.⁵ But as yet there has not been any attempt to set up regional planning agencies with the powers to plan in a broad sense.

Regional planning has been accepted only for river valley projects based on TVA. While it has big achievements to its credit in the field of river valley development, TVA was not designed to anticipate urban development or to guide its shape and direction. It is not sufficient in India to accept regional planning for river valleys or for special areas with each of these areas attempting to operate as a unit.⁶ What is required is acceptance of the regional

⁵Government of India, op.cit., p. 20.

⁶Bauer, op.cit., p. 303.

principle, which goes beyond state boundaries and has a large measure of geographic, physical, cultural, political and historical unity. River valley projects should be sub-units and part of the greater regional scheme. Regional planning will be a comprehensive development of land on a regional basis, involving urban growth and population changes. It will also possibly involve monetary and fiscal policy, welfare programs, regulations of transportation rates, inter-regional trade and, perhaps, many more things.⁷ The success of balanced growth will depend in large measure on how far the nation will be able to set up this type of regional machinery and will be able to get it in smooth working relationship with the various State Governments on the one hand and the National Government on the other.

Another of the functions of regional planning will be to insure industrial balance within the region and to avoid concentration of population. In the West we have seen that when a city grows beyond a certain size it ceases to be an economic unit and it is forced to spend a large amount of its revenues in providing costly transportation and other services. The big city is a place of human degradation that breeds in its slums. So, a more rational pattern is being followed in England. In preference to building more and bigger metropolitan centers, the emphasis

⁷ John V. Krutilla, "Regional Economics--Criteria for Evaluating Regional Development Programs," American Economic Review, Vol. XLV, No. 2 (May 1955), p. 120-132.

is in favor of a network of smaller cities and towns related to the hinterland.

One wonders if there has been any firm decision in this respect in India. In the absence of it, things will take their course on familiar lines from bad to worse.

In this connection, the speech of Dr. Rajendra Prasad, President of the Republic of India, in Madras in November, 1955, reported by Town and Country Planning⁸ sounds ominous. To him, decentralization means "back to the village" policy. He expressed doubt, however, whether anything can be done "at this stage, when our face is turned towards centralization and concentration." As the journal commented, India ought to consider the development of moderate-sized towns capable of accommodating modern industry as a practicable alternative to the further growth of over-large cities. The rehabilitation and improvement of agricultural villages is equally vital to India, but it is a separate problem. The decision is not between big city and village but big city and medium-sized towns.

The time for decision making is at hand because new power from the river valley projects is now becoming available. It will be one of the biggest tasks of regional planning to see that this power is not all used in the big cities but is distributed by setting up industries in

⁸"India: Big City or Village," Town and Country Planning, Vol. XXIV, No. 143 (March 1956), p. 159.

smaller towns including New Towns.⁹ One hopes a decision has not yet been made in favor of "centralization and concentration."

The functions of New Towns.--The question arises whether it is advisable or possible to build New Towns in India. It requires enormous capital and a great deal of organization to build New Towns. Also, the returns do not come back until the growth has proceeded to the point of optimum growth, whereas short term benefits happen to be more important to a developing country like India. But, just as the rehabilitation of the refugees required the setting up of New Town-ships, so, too, the future New towns must be strategic necessities. They should satisfy a regional function of dispersal from overgrown metropolises or they should be situated in regions of natural resources, power, and water available in such quantities as to insure their success. Some industries thrive when they are grouped in close proximity. A pattern of satellite towns should be able to do the function better than a big city. The present overcrowding in the big cities is so great that, for further industrial activity in them, new housing is required.

It has been reported that in Bombay, due to high cost of land and lack of mechanization of the building industry, the cost of building row-houses in the suburbs is only

⁹Bauer, op.cit., p. 307.

one-third of the cost of putting up high apartments in the city.¹⁰ But suburban development will require heavy investment in services and transportation, whereas new developments, especially if it is built on the aided self-help program as compact new communities or located in existing smaller communities, can get along for quite a long time with only minimum services and community facilities.¹¹ The organic approach to sanitation in the installation of composting process, already existing in many parts of India, is suitable for this type of small-town development. Outside latrines with septic tanks; community water taps with water supplied from deep wells; roads for light traffic; one-room and kitchen homes; these, though unsatisfactory from Western standards, make up an austere community far better than the existing urban slums which are already centers of human depravity.

In this scheme of development, short-life housing, using indigenous materials, can be built cheaply without undue diversion of strategic materials. These Town-ships must be supported by a variety of industries encouraged and guided by public agencies. It is here, again, that regional planning and the control of industries will play a decisive

¹⁰International Labour Organisation, Workers' Housing Problems in Asian Countries (Asian Regional Conference, Tokyo, 1953). Geneva: International Labour Office, 1953, p. 86.

¹¹Bauer, op.cit., p. 390.

role in making these New Towns a success. The reported failure of Faridabad, built by the refugees through aided self-help, because of the failure of getting industries to locate there, must serve as a lesson as to the necessity of providing gainful occupation in New Towns.

There remains the problem of providing communications between the various New Towns in the region. Building arterial streets and railroads is a productive activity. Industrialization can proceed at a fast pace only with a good network of communications. India is very much aware of this fact. In the Second Five-Year Plan, some 3,000 miles of railroad and about 15,000 miles of national highways have been scheduled to be built, besides about 30,000 miles of state highways.¹² The location of New Towns will be necessarily on these lines of communication or along existing ones.

These compact new communities must eliminate the present ribbon developments which one can see along highways in India. If they stand on their own feet, there won't be the necessity of commuting to the larger cities. They will, however, have complementary industries and intimate contacts of trade with the big cities.

¹²Government of India, op.cit., p. 82.

Considerations in Neighborhood Planning and Housing Developments in India

Acceptance of neighborhood planning.--If in Western countries neighborhood planning brings to industrial man some humanizing elements, it has a special appeal for the people of India. Indian society is gregarious in nature and even the urban people lived in villages till recently. They haven't taken to city life very well, and living in planned neighborhoods would be to their heart's desire. However, the neighborhood will have to be very intimate, designed to facilitate the social habits of the people.¹³ LeCorbusier, when he says he was inspired in his design of Chandigarh by the beautiful women of India and the roaming sacred cows, must have sensed the beauty, gentleness and slowness of Indian family life and institutions.

In Chandigarh¹⁴ which has been planned on the neighborhood principle, the population in the units ranges from 10 to 20 thousand people. This wide variation in the early stage may, perhaps, help obtain an optimum size or there need not be any rigid optimum. The shopping centers, instead of being open as in the West, take the shape of long shady streets, covered from the sun and bustling with life,

¹³Albert Mayer, "The New Capital of the Punjab," American Institute of Architects, Vol. XIV, No. 4 (October 1950), p. 166-175.

¹⁴Punjab Government, Chandigarh. New Delhi: The Public Relations Department, n.d., unpagged.

characteristic of Indian Markets.¹⁵ Quiet streets meander past the homes and are limited to pedestrian and slow moving traffic, with all through heavy traffic confined to the main roads which gird the neighborhood. The open spaces, the community centers and the elementary schools are essential parts of the neighborhoods. Many New Towns have been built on similar lines and have proved successful.¹⁶

Shortcomings of neighborhood units.--The one great drawback of neighborhood units, which is also the case in varying degrees in the West, is the formation of economic and social groups. The existence of the caste system, especially in the rural communities, makes the neighborhood concept rather dangerous in India. New India is trying to get away from the tradition of caste.¹⁷ That is why Nehru said that Chandigarh was "symbolic of the freedom of India, unfettered by the traditions of the past." But traditions die hard, and another kind of grouping took place when the thousands of refugees settled in language and regional

¹⁵Max Lock, "Building A New Capital City," News Sheet of the International Federation for Housing and Town Planning, No. XXXIII (August 1954), p. 14-17.

¹⁶Otto Koenigsberger, "New Towns in India," The Town Planning Review, Vol. XXIII (1952-53), p. 95-132.

¹⁷Ibid., p. 107.

groupings, which may remain islands within the existing community and may turn out to be India's "ghettoes."¹⁸

A third kind of grouping is the economic class, which curiously seems to be fostered by the Government. On grounds of economy, Government is building different types of houses according to the income of their employees and grouping the same types of houses together. Thus, one hears of sweepers' colony, peons' quarters, and clerks' (low-income, white-collar workers') neighborhoods. This is not a desirable trend.

So, the planning of neighborhoods has its appeal to the Indian temperament and family institutions, but has its pitfalls in its broader social implications. This will require the attention of both planners and social workers. As in the West, one solution will be to have a mixture of social and economic groups in the same proportion as they are found in the population and which will also find its correlation in the mixture of housing types and densities. The situation in India requires careful handling and intelligent guidance in channeling society along democratic lines. This will be facilitated by a rising generation brought up in liberal thought.

¹⁸Victor Barnois, "The Social Structure of a Sindhi Refugee Community," Social Forces, Vol. XXXIII, No. 2 (December 1954), p. 142-152.

Factors influencing site planning.--In India, site planning will be governed by economic, climatic, topographic, and sociological conditions. There are many reasons which go against compact settlements with closed terraces of multi-storied buildings. Because of the non-availability of materials like steel, cement and teakwood, and the lack of an experienced and mechanized building industry, high buildings are costly to construct. The outdoor living habits of the poorer classes, especially, cannot be reconciled to the confines of high apartments; and unless air-conditioned, they will be inordinately hot.

It has already been indicated how services can be provided in low-density neighborhoods. While trying to build on a mass basis, only essential minimum requirements can be met. This will be more appropriate than the creation of advanced communities, which the country cannot afford, and also a large proportion of the people have still to live in sub-standard housing. The emphasis should be not on high standards, but on healthful standards. If modern technology is applied scientifically to give modern housing designs, better sanitation, and advanced construction methods to tropical countries, then life in the tropics can become healthful and, perhaps, more pleasant than in regions with inclement seasons.¹⁹

¹⁹Anatole A. Solow, "Housing in Tropical Areas," Housing and Town and Country Planning, United Nations Bulletin 2, 1949, p. 11-13.

At this stage, it would be pertinent to go into housing in relation to family size and composition. The average size of a family is five or six persons. Though the Indian 'joint family system' is breaking up, yet it is customary for unattached relatives and the younger generation, even after marriage, to live with the elder folks.²⁰ Communal cooking and eating are also common.

So, in the construction of homes for industrial workers, if the Government limits its buildings to one and two room houses, either it is breaking up this living together or the people will be huddled together in these homes. One is inclined to believe the tendency will be for the latter, since living together will be economical for the low-paid workers. Hence, there is a necessity for providing larger homes or homes capable of some rooms being added as the size of the family increases.

However, minimum space standards should be insured by enforcing housing codes which stipulate floor area requirements for each person. These requirements will not be as high as in the West, because of the out-door living and sleeping habits of the people. Many people sleep in the cool verandah or on flat terraced roofs instead of within the confines of rooms.

These are some of the sociological factors which challenge western practices being applied directly. Planners

²⁰Koenigsberger, op.cit., p. 103.

have to study these and secure the help of sociologists before they force people to live in one-room homes which will break up too soon these traditions and a way of life. However, these conditions should not be reasons for inaction in drawing up standards.

Community facilities.--Community facilities and recreation may have to be very modest in the early stages. Multiple use of facilities should be encouraged. Thought should be given during the design stage itself, because, with a little extra cost, the same institution can serve more than one purpose. The use of school buildings as community centers and for adult education, combination of kindergarten in elementary school, and many other things, according to local conditions, will easily suggest themselves.

As in Britain, the housing estates can share these facilities with the neighborhoods of which they should form a part. Also, welfare agencies can play a big part in providing additional activities, which will include educational, health, recreational, and other activities which will teach the women home occupations to enable them to earn during their spare time.

Housing management.--When many housing developments are started, the importance of housing management will increase. The type of training given in Britain, which trains women for social service as well as for the business of rent

collection and management, needs to be started. The training of men and women for management jobs could be started in the universities or in teachers' colleges, so that enough trained personnel may be available for the housing developments. Training people is a slow process and has to be started early if trained people are to be made available in the near future.

City Planning as it Affects Housing

Comprehensive city planning.--The evil effects of uncontrolled growth are as bad in India as in the West. But the full impact of haphazard growth of industries spreading smoke, noise and blight over large parts of the city has not yet been seen in India, except in a few big cities. What one sees at present, mostly, is a mixture of business and residential uses, congested living accentuated by bad environment and lack of sanitary facilities. One shudders to think to what degree of unhealthful living conditions these small towns will descend when industries begin springing up all over these towns.

It is here that city planning will play its part in guiding growth. That planning for the cities will have to be comprehensive in nature was stressed a long time ago in India by Geddes, when he said, "Town planning is not mere place-planning, nor even work-planning, but to be successful, it must be folk-planning."

However, one suspects that town planning in India still takes the form of preparing architectural and engineering plans for the construction of certain physical facilities which fail on the bed rock of finance or even earlier for lack of personnel to prepare the plans. In the State of Madras, one of the very few states having a town planning act, none of the towns submitted development plans to the state as required and very few appointed any town planning staff.²¹ Finance and personnel are problems not peculiar to India. While it is hoped the situation as regards these will improve, something should be done in the meanwhile in the shape of giving the cities the tools to control land-use and new developments. One hears about buying development rights and recovering betterment taxes from property owners in line with the British Development Act.²² This may be good, if it can be done. But can the Indian cities or the private owners afford to pay? Land-use control under the police powers, as in the United States, may be a more rational way of attacking the problem.

Because of the lack of personnel the state should help in preparing the plans for the cities, but the ultimate responsibility for adopting them should lie with the cities. While the state should plan and set broad general policies,

²¹Government of Madras, Report of the Madras Provincial Town-Planning Enquiry Committee. Madras: Government Printing Press, 1949, p. 20.

²²Ibid., p. 86.

including policies with respect to the concentration and dispersion of cities, the planning of the cities should be made more and more the function of the cities themselves. Instead of planning being a bureaucratic and purely technical function, as in India it tends to be, it can be dynamic when citizens have their planning commissions and other committees and full popular participation is obtained for the entire planning program. The legislation required and the actual set up to obtain the citizen participation will be important tasks, which planners in India will have to work out. In my opinion, this new approach is desirable for city planning in India.

Housing tools.--The advantages of having standard state or regional building codes, flexible enough to incorporate new building materials and new methods of construction to encourage low-cost housing, have been recognized in the West and have been adopted there.

In India, minimum housing standards and building codes, which take into consideration the climatic, economic, and social habits of the population are an immediate necessity. The introduction of these codes should be followed up by a program of enforcement.

Another important step is to undertake national and local surveys to assess housing needs and to evaluate the conditions of present housing. A national census of housing could be made along with the population census. It must

have broad coverage and be detailed enough to be useful in arriving at national housing policies and targets. The local census, when carried out, must be simple and diagnostic in character. It should have data which can be analysed in arriving at a reasonable appraisal of housing needs and conditions. It should disclose how the usefulness of existing housing can be prolonged with the help of repairs and additions.

For a long time to come, except in the case of slums made up of shacks, India cannot destroy many houses of a permanent nature without throwing people into the streets. On the other hand, many dwelling units can be brought up to acceptable standards by the provision of some sanitary facilities or other improvements, like providing chimney or flues to draw away smoke, improved ventilation by opening up windows, providing protection from rain and dampness, providing a hard, smooth and easily cleanable floor, or the addition of one or more rooms to alleviate overcrowding. So, too, road building, improved water supply, repairs and maintenance can directly and indirectly extend the life, improve the quality, and even enlarge the total capacity of the existing stock of housing. Concentrating on new housing, without taking these steps to up-grade the existing ones and protecting new developments is like "missing the forests for the trees."²³

²³Rodwin, op.cit., p. 19.

These and other things can be carried out by the municipalities by harnessing full citizen participation in their enforcement programs, which have been so successful in many American cities.

Housing Policy and Building Programs for India

Housing policy a prerequisite.--New housing to take care of new industrial developments; comprehensive plans for cities with planning tools like zoning and subdivision regulations; housing codes to insure good new developments and to protect and up-grade existing ones by a program enlisting citizen cooperation; all these can be accomplished only if there is a national or state policy comparable to the one in the United States. The cities cannot stand by themselves. They must be helped to help themselves. This program will not be much different from the "community development project" (a program worked under the Indo-American Technical Co-operation Program), which brought education, better methods of cultivation, roads and better housing to hundreds of villages in India.²⁴ Now the small towns and cities require a community project program, if India is to build up as an industrial nation, without the otherwise attendant misery. A comprehensive housing act with all these provisions is long overdue for India. It is a prerequisite of a good building program.

²⁴Government of India, Ministry of Information and Broadcasting, First Five Year Plan (People's Edition). New Delhi: Planning Commission, 1953, p. 192-195.

Need for housing organizations.--Decisions must be reached as to how far the government can go in the matter of new housing, how much it should insist on private industry to build for its workers, and how much loan and subsidy it can give. When this is done, certain tentative targets should be fixed, which of course can be revised in conformance with the national economy. For reasons already cited, there is no escape from a policy of industrial decentralization, which can be implemented by low-cost, short-life housing. This will also conserve cement, steel and timber for other productive activities. Housing cooperatives can play a big part in the housing programs if they are organized properly. Research in building materials and building techniques has reached an advanced stage in India, as seen in the low-cost housing exhibition at Delhi. Starting some pilot projects in mass building and attaining some degree of standardization of building plans and house parts are some of the things now required. Meanwhile, a building industry must be organized by training skilled workers and supervisory staff, by increasing the output of building materials, and by securing some degree of mechanization of the industry.

All these things will require the full time work of both the National Housing and Town and Country Planning Ministry and Departments at the state level. These agencies, especially the National agency, will have many functions to

perform and will have many sections. During the initial stages some of the sections can be combined or grouped together.

Nothing is more important than securing the services of qualified technical and supervisory staff for these agencies. Foreign experts may be obtained, while people are being trained at home and abroad in increasing and sufficient numbers.

Aided self-help programs.--The country already has had experience with aided self-help programs in connection with the housing of the refugees. It has the phenomenal success of Faridabad to its credit. As discussed in the cases of Sweden, Puerto Rico, and Tuskegee, the success of an aided self-help program will depend upon the availability of cheap government land on the outskirts of town, availability of cheap building materials which can perhaps be achieved by block-making machines and concrete mixers, planned neighborhoods, government loans and subsidies, and a good organization which must guide and direct the whole program at every stage. It also must be a part of a larger community development and housing program. The program must be simple and capable of being operated practically and duplicated without much difficulty. It must be flexible enough to be adapted to the type of community for which the program is planned. For example, skilled workers with some income can build more or less permanent type of houses, whereas

unskilled and labor migrating from rural parts will be able to build only temporary structures, which will have to be pulled down before they turn into slums. For the same reason it should be a low density development. The aided self-help program is not suitable for big city suburbs where the cost of transportation of the workers to the city will offset all the other advantages. It is suitable for small towns and new development towns.²⁵

Cooperative house building.--at least two states in India have had experience in cooperative housing. The joint ownership type is suitable for low-income groups while the individual ownership type will be more in keeping with middle-income group tastes. What makes the Swedish co-operatives an outstanding success is the fact that the cooperative principle is carried through at all stages, reducing cost considerably. Purchase of land, financing, building the homes, production of building materials, administration and maintenance are all carried out on a cooperative basis. It is the result of years of experience. It has special provision for transference of housing from one place to another, which gives mobility, so necessary to industrial workers. It also takes care of defaults due to unforeseen causes like illness or death. The cooperatives

²⁵G. A. Atkinson, "Aided Self-Help -- Its Application to the Housing of Tropical Peoples," Housing and Town and Country Planning, United Nations Bulletin 3, 1952, p. 47-53.

in India can save the government much administrative work at a time when the government may be over-burdened with many development projects. The creation of these cooperative organizations where they don't exist and the introduction of some of the better features of Swedish cooperatives will be one of the tasks to be undertaken by the housing ministry, if house building is to progress beyond the stage of planning on paper.

Possibilities of standardization.--Prefabricated homes have been tried in some parts of India and have failed because of the great initial cost of starting the factories, the high cost of transportation, and, finally, their inability to withstand the climate unless they are of very good quality. But what holds up possibilities is standardization of house plans, over wide regions of the country, with modular coordination. This will also allow for standardization of house parts and the mass production of easily transportable ones like doors, windows, roof elements, sanitary, electrical and other fittings. Also, the quality of building materials should be standardized. This would make possible the use of uniform stress for design calculations and would result in savings of labor as well as materials, which will otherwise be wasted if lower stresses are assumed for safety.²⁶

Organizing the construction industry.--The building up of the construction industry is one of the tasks of the national

²⁶International Labour Organisation, op.cit., p. 30.

and state housing organizations.²⁷

An increased production of steel, cement and wood will make these commodities available in larger quantities for home building. But the bulk of the construction must utilize indigenous and cheap materials, made available through research. Only then will building activity receive the boost it requires so badly.

A certain amount of mechanization of building equipment will greatly speed up building work. Brick-making machines, stone crushers, concrete mixers, and wood saw mills could be imported or manufactured at home.

There is the problem of training skilled labor and supervisory staff. Machinery should be set up to train these people by starting a program of giving training to apprentices in the various building trades. Some of these have already been started. It may be desirable to give the apprentices, in addition to theoretical training, practical training in industry with suitable remuneration to attract more youths. Also, the apprentices should be helped to find employment in private industry, when once they complete their requirements of training. Vocational training should be given to adult workers already in the trade with a view to increasing their skills and acquainting them with the latest techniques of building and with methods to avoid waste in materials.

²⁷Ibid., p. 70-76.

Every encouragement should be given to contractors and firms engaged in home building by making available to them credit facilities, building materials and trained workers. Encouragement should also be given to the building materials and construction industries to carry on research. International cooperation.--Western countries can make available their vast advances in the fields of planning and technology. The United Nations and its specialized agencies like the Housing and Town Planning Section of the Economic and Social Council, International Labor Organization, Food and Agricultural Organization, The World Health Organization, The United Nations Educational, Scientific, and Cultural Organization, The Colombo Plan, and the United States Technical Cooperation Administration are all helping the underdeveloped countries in various ways to solve their housing problems.²⁸

There is a necessity of coordinating the efforts of these bodies and pooling the experiences and knowledge of the benefiting countries themselves, especially those having similar climatic and economic conditions, so that there is no needless duplication of efforts in the same field. Besides the question of international financing of housing, which is tied in with national economy, the world organizations can render valuable technical assistance. There is a wide field in which this could be done. Technical

²⁸Ibid., p. 160, 161.

assistance could be rendered in developing a broad national housing program as part of economic development, in expanding the field of building research, in developing an efficient and well-organized building industry, in initiating health and educational programs on housing and housing environment, in organizing and executing pilot projects, in developing credit facilities, mortgage insurance and possible taxation policy, in organizing cooperative and self-help programs, in developing practical housing statistics services which will facilitate the formulation of policies, and in drawing up national and state planning and housing legislation.

These, in brief, are the ways in which Western countries can help a rising country like India to get over the 'housing hump.' The country faces a huge up-hill task but the results are so vital to the building up of a strong and healthy nation that the task must be undertaken with courage and faith. With the present goodwill and the increasing assistance that has been received from many countries, India can look forward to an era of better and decent housing.

CHAPTER IV

SUMMARY OF RECOMMENDATIONS

1. India requires new housing for humanitarian, economic and political reasons. The question is how this can be fitted into a program of economic development. Only a bold national housing policy can do it.
2. Regional planning must insure a balanced development of the country as a whole, and also of the various regions. New housing must be related to a dynamic policy of decentralization in which existing medium-sized cities and compact new towns may play an increasing part. Industries should provide gainful occupation to the people in these developments.
3. New towns or expansion of small-sized communities should be planned to take care of the dispersal of the big metropolises, to develop regions with natural resources, and also to help backward areas. These can be built with short-life housing of the self-help type or by housing cooperatives, with only minimum services and other facilities. Also pilot projects will have to be built by governmental agencies utilizing low-cost house building techniques which have been developed already to a considerable extent.

4. While desirable in many respects, neighborhood planning has a severe drawback in that it encourages dangerous caste, social, and economic groupings. Planners, with the help of social scientists, have an important task in guiding society along democratic lines. On the other hand, consideration must be given to some legitimate social living traditions.
5. Site planning, housing management, and social welfare agencies have valuable parts to play in housing developments.
6. Various planning and housing tools must be drawn up and enforced in order to obtain healthful urban developments. Citizen participation must be mobilized in all city planning and housing programs.
7. National and state policies should coordinate city planning and housing. This must be embodied in an Act. It should be broad enough to include slum clearance, rehabilitation, and conservation, along with new housing. Ways and means must be found to extend the life, improve the quality, and enlarge the total capacity of existing housing.
8. Housing organizations have to be established both at the national and state levels, with the object of performing a large number of functions in tackling the housing problem.

9. Housing organizations need to draw up a housing and city planning program for the country. They need to organize research into cheap building materials and new building techniques, initiate new housing programs, and organize the construction industry to enable it to undertake building on a large scale to supplement self-help programs and building cooperatives.
10. More technical help from the industrially advanced countries of the West is necessary to help India to tide over the housing crisis. Many world agencies are already making a great contribution.

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